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Thursday, October 21, 1982

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Amdahl delivery delay hits profits

by Kevin Pearson
TECHNICAL problems which caused a six-month delay in the delivery of Amdahl's 58/60 IBM-compatible mainframe have caused a massive drop in the company's profitability.

Aud in the short run, the problems are not over. Amdahl has just announced that early shipments will not meet their performance specifications in some applications. Normal transaction and Cobol processing will not be affected, says Amdahl UK managing director Terry Pasola. He denied that the problems were serious, or that they would cause further delays in delivery schedules.

Amdahl's third quarter profits crumbled to 8% of the comparable profit for 1981. Profit for the quarter stood at \$630,000 compared with almost \$7.5 million last year. This brings the profit to date for 1982 to \$4.1 million, compared with almost \$20.5 million in the first nine months of 1981. It was Amdahl's fourth quarterly profit decline in a row.

John Lewis, Amdahl's president, blamed the result on the usual crop of economic problems, and the production costs of the 58/60.

Amdahl has just started to ship the machine, and has said that the two engineering changes needed to bring it up to its specification will be fitted in the field to the 20 or so machines that it plans to deliver in the fourth quarter.

On a brighter note, Pasola claimed that European tests on the 58/60 had shown that it was more than meeting its specification on Cobol benchmarks. He said the problems were confined to Fortran processing and to operation in supervisor state "when accessing disc files."

He said the engineering changes could be fitted in four hours, and should not cause any serious problems for users.

The company is also planning to launch its 6000 disc system in the UK, within the next few weeks. The disc drives, made by Fujitsu, are already available in the US.



PASOLA... problems are confined to Fortran processing.

Mascom's users are rescued

by John Kavanagh
THE death of one Data Case systems house in Bradford has brought new life to another, via has taken over its customers and some of its staff.

The 50-plus users were left without support when the recent took Mascom Systems over in June. But waiting in the wings was Datavision, formed in 1979 to dormant since its founder, Dr. Acton, joined the Digital Equipment Systems house and computer manufacturer Systeme.

When Mascom died Acton's fellow regional manager Barry Len left Systeme to revive Datavision and take on a ready-made customer base. Bullen had a special interest in the venture he was founder of Mascom.

A handful of Mascom users made their own support arrangements but Datavision has taken around 40 others. Data Case took over all the hardware maintenance contracts straight away at no cost to the users.

Datavision also gave jobs to seven Mascom staff, when already knew. Datavision was a dozen people and after Leeds and Blackpool.

"Mascom had around 80 packages, which we are redeveloping," said Acton. "We will be offering new vertical markets. We will be offering packages for insurance, word processing, motor and office equipment, order processing and stock control systems."

Acton said Datavision had picked up £200,000 worth of contracts, including the Mascom's, and was looking for a first-year turnover of £750,000.

'Inmos will need £50 million to survive'

by Kevin Cahill
INMOS will need at least £50 million, possibly more, if it is to become a viable international producer of microprocessors. Sir Frederick Wood cited the figure at last week's presentation of the NRDC annual accounts, and so confirmed a view common among private financiers who have been approached for funds for Inmos.

The government has made clear that it will not provide more than £10 million in the form of a loan guarantee.

It is not the size of the sum that has put the City off, however, but the risks surrounding the chip market.

The 64K chip which the company is now bringing into production is arriving at a time when there is a surplus of capacity, at least in the West, and a number of US companies, including Intel and Texas Instruments, have been laying off workers in the face of the slump in demand.

Widespread reports that the Japanese had captured up to 70% of the 64K RAM market were gross exaggerations of the first few months of a new market, and many observers expect the situation to normalise as volume builds up.

Even so Inmos has been slow to get production ramped up. The company has taken nearly twice as long as typical US silicon chip start-ups.

Sir Frederick is thought to have asked the government to permit him to use the proceeds of the sale of other BTG companies to fund Inmos through to next year, when he thinks that private funds will be available.

One possible candidate for sale is the Inmos factory in Colorado, but soundings among potential buyers made in California last year did not produce a satisfactory result.

Inmos spokesmen currently estimate that the company needs about £10 to £15 million to avoid a cash flow crisis next year and to get production at the Gwent factory running at peak volumes.

Sir Frederick has not been able to obtain this money from the government. And Patrick Jenkin, the Industry Minister, has gone to the record saying that no further funds are available.



"Xerox stores have been offering Diablo printers at very aggressive prices."

Fly-by-night dealers taint terminal trade

by John Kavanagh

THE terminal business is getting a cowboy image, with manufacturers turning a blind eye to the activities of fly-by-night dealers. That is the view of Diablo printer distributors, which say they are being undercut by the manufacturer's agents, Xerox. The authorised Diablo distributors say Xerox is selling the printers to dealers at cut rates. Xerox denies the charges.

The new blow to the reputation of the terminal market comes just after the problems of Digital Equipment's authorised terminal distributor programme came to a head, with distributors considering pulling out of the scheme. Those distributors are now looking at new DEC proposals for the future of the programme.

However, one of the top line printer distributors, Alveronic Computer Systems, says the market is being cleaned up as small disreputable dealers go to the wall because of the recession. Alveronic distributes Dataproducts line printers and is a DEC authorised computer distributor.

"Xerox stores have been offering Diablo printers at very aggressive prices to my OEMs and other distributors' customers," said Tony Beswarick, manager of

the UK arm of Geveke Electronics. The Netherlands-based distributor is said to be Diablo's biggest UK outlet. "They are offering prices of under £1,100, which is less than the price I can offer."

Beswarick insisted he had no argument with his supplier, the manufacturer Diablo, but only with Xerox.

Con Driscoll, chairman of the Diablo distributor Zygal Dynamics, agreed. "We have had some difficulty with the sale of Diablo printers through stores," he said. Managing director John McLean said Zygal had come across a case of a customer being offered a Diablo unit at under £1,100. "I suspect Rank Xerox has been embarrassed by big stocks," he said.

At Rank Xerox Ken Herlingshaw, programme manager for microcomputers, denied that special deals were being done. "Our prices are unchanged since November 1980," he said. "Dealers can buy the 630 model at £1,590 with a microcomputer. Discounts to these dealers could typically be 30%, putting the price at over £1,100. The end user price for the printers on their own starts at £1,690. There might occasionally be discounts for particular orders but our general policy is not to discount."

Herlingshaw was contradicted by a salesman at one of the Xerox stores in London. In response to a simple telephone enquiry the salesman offered to look into the possibility of a special deal on a one-off sale. "It depends how desperate my manager is to sell one," he said.

Authorised distributors are angry that small-time dealers can get big-name products at cut rates from various sources, sell them to small businesses and then disappear. The top distributors say even the best products can soon get a bad name from such practices. That bad name then rubs off on the reputable companies.

"Dataproducts has cleaned up its market in the UK in the last two or three months. At the same time the recession has cut the dealers' already tight margins and they are now floundering."

News Analysis: Cowboys ride roughshod, page 8.

Japanese giants link for super computer

by Kevin Pearson

FOUR Japanese giants have joined forces to build by 1986 a supercomputer which will be up to three times as fast as any now in production.

Japan's PTT, Nippon Telephone and Telegraph, and Japan's three largest computer makers, Fujitsu, Hitachi and NEC, have formed a joint venture to develop a high speed machine with three times the processing capacity of Fujitsu's M380, already the largest uniprocessor in the world with a speed of 15 mips (millions of instructions per second.)

The Japanese have issued a standing invitation to European and American companies to contribute to the project.

The machine will not be a true fifth generation machine, but will be what a Hitachi spokesman described as a "4.5 generation" computer, making heavy use of VLSI technology, such as 256 Kbit memory chips, while retaining conventional computer architecture.

The machine is timed to appear in 1986 and should be commercially available in 1987.

It will function in the 40 to 50 mips range, and will find itself competing with offerings from IBM and Gene Amdahl's Trilogy Corporation.

IBM is expected to announce its Sierra to replace the 308X range in 1984, for delivery in 1986/7. This is likely to extend the power of IBM's machines into the same power range. Amdahl says his company will deliver its first production machines in 1984.

Racal pulls out of CAD merger talks

MERGER talks between the UK's three top computer aided design companies have broken up. Racal-Redac pulled out of the talks last week, because the merger proposals were technically and commercially too complex.

The other companies were Compaq and Quest Automation. Both these companies specialise in civil engineering, process plant and mechanical engineering design.

DEC pay freeze

THE 10,400 Digital Equipment staff in England and Europe will have a three month pay freeze imposed on them from the beginning of November, it was announced this week. US employees have already been affected by the new policy.

Sperrylink launch

UNIVAC is to launch a local area network called Sperrylink next week. The network will provide the basis for the company's attack on the office automation market.

Software listing

THE software company Systems Designers is going to the City for backing - and is moving straight to a full Stock Exchange listing. The company does 40% of its business with the Ministry of Defence and is also a viewdata specialist. Its last annual figures showed a £7 million turnover and £827,000 gross profit.

Apple boom

MICROCOMPUTER company Apple is booming, with profits up 56% for 1982. Annual results released last week showed sales had jumped 74%, from \$334.8 million last year to \$583 million for the year ended this September. Profits increased from \$39.4 million in 1981 to \$61.3 million.

Viewdata shopping in market research trial

by Donald Kennett

THE effectiveness of electronic shopping by viewdata is to be tried out in January by AGB Cable & Viewdata, the two-month-old subsidiary of market research firm Audis of Great Britain which has been set up to specialise in interactive services on wideband cable networks.

In the absence of a wideband cable network right now, the new company is using viewdata as its medium. Its first move has been to take over the television audience response projects set up by its parent with Granada Television and Channel 4.

The next is to set up an electronic shopping trial based on 50 Xylyx public access viewdata terminals linked to the viewdata bureau service run by another AGB subsidiary, Hanger Lane Computing. The terminals are to be installed in high-street outlets and will be used in conjunction with printed mail order catalogues.

LINE NOISE

IBM will now launch the first model in its Olympia range of machines in late November. Two provisional launch dates for the 2.3 million instructions a second processor, designed to fill the gap between the old 4300 machine and the low end 3083E, have been set for November. And there could be a 3.5 mips Extended Architecture machine, following up next spring, along with a new disc system for the new range.

HEWLETT-PACKARD's awaited 32-bit computer system is due to make its worldwide debut in mid-November. It is based on the 32-bit microprocessor chip set unveiled last year, early in the rush of 32-bit chips from computer and semiconductor manufacturers, and should put in an appearance at this year's Comdex exhibition.

DIGITAL RESEARCH, producers of arguably the world's most popular micro operating system, CP/M, has been seen talking to MicroFons, producer of arguably the world's best micro Cobol systems software. No prizes for guessing what the talks have been about. Gary Kiddall, the man behind CP/M, is in London today (Thursday) to unveil no fewer than six new CP/M products and to reveal Digital Research's plans for the European market now it is setting up on its own over here.

US semiconductor firm Intel, fresh from selling process technology to IBM, will sign a similar deal with Philips next week. The move involves Intel's new CMOS process and the single-chip microcontrollers released as the first parts using that technology.

"Pssst! Wanna buy a new IBM 3033U at up to 60% of IBM list?" This is not fiction. Details have leaked out about an amazing deal between IBM and Comdisco, for the latter to take "a substantial number of 3033s". Unfortunately IBM's standard non-disclosure agreement came into force as the deal was signed. However, discounts of up to 60% have been mentioned in the same breath as the deal.

US hi-tech leakage is not academic

by Howard Karten

AMERICAN high technology secrets are being passed to the Russians, but not published research by academics, according to the top US scientific body.

A US National Academy of Sciences panel said recently that publication of research and technology papers in scientific journals "is the source of very little of the technology transfer problems" now faced by the US.

The panel found "serious doubt as to whether the Soviets can reap direct military benefits from this (information) flow in the near term."

The panel, a group of science experts appointed by the NAS, did

find, however, that there is a "substantial and serious" leakage of American technology that was damaging national security.

In recent months, the Reagan administration has been stepping up its efforts to restrict export of sensitive technology and information about technology. These efforts have taken the form of both increased publicity about seizures of allegedly Soviet-bound technology (such as the one involving Comsat and others) as well as efforts to control publication of information considered sensitive or security related.

In a recent case, a government agency barred delivery of a paper at a meeting of an electro-optics

society. And in January, Admiral Bobby Inman, then CIA director, had suggested a review by government authorities of some research papers prior to publication.

The pre-eminence of the US in scientific and technical matters, the panel concluded, was closely associated with open communications among scientists. However, in some cases, it said - mainly those with clear national security implications - publication might well be restricted.

President Reagan's science advisor, George Keyworth II, was supportive of the report's conclusions, cautioning that it would be a mistake to mimic Soviet actions in creating a repressive climate.

Digico plant to close

by Andrew Thomas

MINI and micro manufacturer Digico is to close its Stevenage plant within six months with the loss of 130 jobs.

Three weeks ago Digico served redundancy notices on 20 staff, and according to a company spokesman, the shutdown will move into top gear after Christmas.

Digico currently operates from three locations, two in Hertfordshire, at Letchworth and Stevenage, and its major site at Leeds.

The spokesman claimed that the Stevenage closure is part of a rationalisation plan under which manufacturing will be concentrated at Leeds, rather than reflecting any problem with the company's performance. Figures for 1981-82 are not yet available.

The Letchworth plant is not apparently under any immediate threat. "We want to maintain an office in the South," said the spokesman, "and Letchworth is ideal for us. But it would be stupid to keep Stevenage on when we had spare capacity at Leeds."

Some Stevenage staff are to be offered retraining, and the spokesman maintains that some workers will be kept on as the company cannot afford to lose their skills. He would not be drawn on the numbers involved.

Staff at Stevenage are claiming that they were not consulted.

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CP/M firm to set up in Europe

by Claire Gnodding

MAJOR US microsoftware company Digital Research is to set up in Europe.

The company's operating system, CP/M, currently dominates the single-user microcomputer field and Digital Research last week announced a string of enhancements under the label CP/M plus.

Already Digital Research has signed major deals with CII-Honeywell Bull and with ICL to emphasise its commitments to local service and support for users in Europe.

CII-HB is to run the CP/M-8 operating system on its recently announced Micro 9050 microcomputers, and will be evaluating the concurrent and multi-user versions. ICL is running the updated CP/M version 2.2 and the revamped multi system MP/M II on its Personal Computer, based on Rair's Black Box.

CP/M 2.2 is also available on ICL's DR520 distributed system, and both CP/M-86 and MP/M-86 are being considered as options for use with ICL's 16-bit versions of PC and DR520 programs.

"We consider Europe as a very explosive market in the next three years", said Digital Research founder Gary Kildall. "We are heading for the next level with an integrated family of operating systems from single user up to networking, along with tools and languages to improve applications."

The European office will open on January 1, 1983 in Newbury, Berks, headed by ex-Tektronix

man Paul Bailey. Bailey predicts that Digital Research's business will double next year, and again the year after, as the company broadens its offerings of OSs and languages and expands into graphics.

Digital Research follows close on the heels of its main competitor Microsoft, which set up its European operation in Berkshire last year. Microsoft's MSDOS and Digital Research's CP/M-86 OSs are already vying for the position "de facto standard" for the 16-bit machines.

IBM's Personal Computer runs both OSs and the battle will almost certainly be decided on the selection of applications available with the OSs, and the tools and facilities offered by the OSs themselves.

Digital Research is spearheading its entry to Europe with the announcement of full graphics facilities with its range of CP/M operating systems. Both Kildall and Bailey see business graphics as a vital element in winning a new class of end users to their systems, and by getting in early on the graphics boom. Digital Research hopes to establish its own graphics strategy as "standard".

Its first graphics products will be the result of a joint development project with Graphic Software Systems of Wilsonville, Oregon. They will be GSS-Kernel, a 2D graphics subroutine library, the GKS Graphical Kernel System, and GSS-Plot for produc-

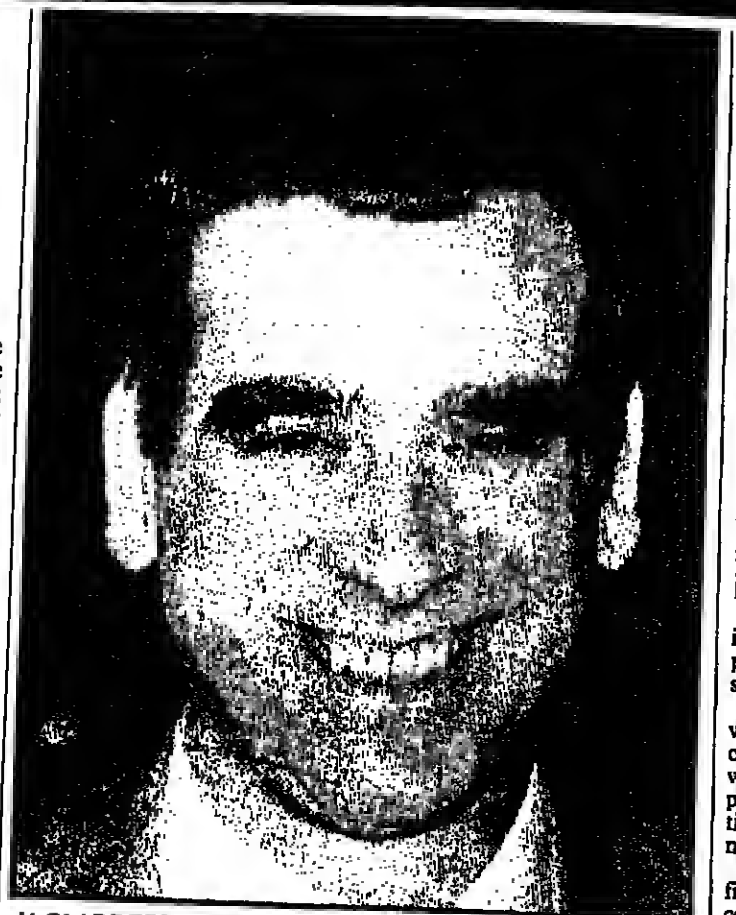
ing pie-charts, bar charts and line graphs. The software will be able to link mainframe hosts running large-scale IBM graphics software such as ISSCO.

The main message in the welter of products announced last week to coincide with the European venture is that Digital Research is no longer "just CP/M". The expansion of its business into languages, productivity tools and graphics, and the enhancement of its operating systems, has brought it into direct competition with Microsoft. However it has made the company's OS offerings more attractive to manufacturers, some of whom are backing both CP/M and MSDOS for the time being.

Digital Research has announced deals with Motorola for the M68000-based EXORCISE development system, and CP/M is being modified to run on Zilog's 16-bit microprocessors, a factor which may well help to put Zilog chips back into the running.

Digital Research also launched its virtual screen management version of CP/M, Concurrent CP/M-86, for the IBM Personal Computer. The OS is claimed to be the first true single user multi-tasking OS. (For more details see Software File page 9).

The company will be setting up the UK operation to service the British market, with Scandinavia also coming under the care of the UK office. A central European office will follow in Germany, and France will be the centre for operations in southern Europe.



McGLADDERY... "Planning significant staff increases."

'Boom time for DEC software houses in UK'

by John Kavanagh

UK SOFTWARE houses specialising in Digital Equipment Systems could be in for a boom when the microcomputer giant publishes its first UK software directory next month.

This is the view of Ritchie McGladdery, head of Filetab Support Services, which has had its RPL Rapid Programming Language and RQL Rapid Query Language accepted for the directory.

But Filetab's claim to the ownership of RQL is in doubt. For the product is at the heart of a royalties and ownership lawsuit involving the company and the National Computing Centre. The NCC has told DEC of the dispute - but still wants to see RQL in the UK.

An NCC spokesman said, "Whoever wins the dispute will benefit from the product's inclusion in the directory." The new DEC venture covers packages developed by software companies but tested and marketed by DEC.

"This will have a substantial effect on our growth and we have revised our business plans upwards," said McGladdery. "We are planning significant staff increases."

McGladdery said DEC's stamp of approval could also bring big overseas sales, as DEC subsidiaries in other countries were producing their own software directories.

The effect was expected to be so great that Filetab had postponed plans to put RPL and RQL on other manufacturers' machines and was concentrating on its DEC and IBM markets.

This year McGladdery is aiming at a £500,000 turnover, a two-thirds increase on last year. Filetab has around 300 users, mainly in the UK.

Products in the directory will be sold by DEC, which will also provide basic support, calling on the supplier for help with more complex problems. McGladdery said Filetab would aim more at building customised RPL and RQL systems and at existing DEC customers seeking to add new facilities. He saw no conflict with DEC.

Hardware for John Brown beats Reagan ban

by John Riley
UK ENGINEERING firm John Brown last month flew in nuclear hardware from the US to beat President Reagan's ban on such exports.

While the ship carrying John Brown turbines for the Humber pipeline was preparing to leave Scotland, a cache of nuclear hardware from the US was flown to the UK by John Brown Engineers and Constructors.

This move avoided the possibility of being caught up in the pending Reagan administration sanctions on the nuclear industry.

The order, valued at £100,000, was with Amper Corp, a supplier of peripheral subsystems for the vacuum and IBM mainframes, and placed after an extensive evaluation period of seven to eight months.

The cache of nuclear hardware first to be installed in Britain, consists of a dual control processor, four Model 84502 disc drives, 131.4 megabyte disc, and with Data Save option.

According to Neil T. Lyle, vice-president of marketing at Viewdata, the purchase is planning to make for a major move into Europe and is setting up subsidiaries in Britain and other as yet unspecified European countries.

Viewdata has impact on US advertising

by Howard Karten

ALTHOUGH Viewdata has yet arrived as a commercial reality in the US, recent developments in the advertising world appear to hold out the promise of speedier up its development.

A Viewdata trial now taking place in Ridgewood, New Jersey, sponsored jointly by AT&T and CBS Broadcasting, has attracted the attention of some 80 media advertisers.

These advertisers, mostly big firms marketing their wares nationally, are in effect serving a guinea pig with the Viewdata system. They hope to discover the most effective way of presenting their ads.

Govt takes the brakes off Vans

by Donald Keonett

THE government has announced what it calls the most liberal value-added network services (Vans) regime in the world.

The general licence for Vans published by the Department of Industry last week is significantly different from the draft issued for discussion in July in that it is clearly designed to permit private companies to provide any services using BT's networks except for the straight resale of transmission capacity on leased lines.

In July there were fears that valuable services such as guaranteed delivery or message encryption would not be allowed or that the licence would turn out to be sufficiently ambiguous to allow the legality of services to be challenged in the courts after they had started.

Last week the final version of the licence was welcomed by Computing Services Association general secretary Doug Eycions.

"We've had a six-month wait,"

he said, "But we are delighted. This is good for us, it's good for everyone and it's particularly good for British Telecom. It will bring them heaps more traffic and revenue."

Derek Evans, chief executive of BT's new rival network operator, Mercury Communications, said: "I'm delighted with this and very much looking forward to working with Vans providers."

BT's director for regulatory affairs, Frank Lawson, said: "This is very different from the draft, but I've been a little pained by the comments. We have licensed Vans before this and I don't think anyone could say we've been obstructive. I like to see our networks as the gateway to the information technology age."

"This is not operating up switching or transmission or allowing resale. We're talking about innovative services many of which do not exist now."

Conditions for providing a ser-

vice under the licence include that it should do something for the customer other than just convey his message, that connections to other privately-run services should be via public networks, that any equipment connected to the public network directly or indirectly should be approved in the normal way, and that international connections should be via public networks or via the customer's own leased lines.

Anyone who breaks the conditions of the licence can have it revoked at one month's notice after a three-month warning and anyone who operates a service without a licence is liable to prosecution, with the penalty an unlimited fine.

Examples of services the DoI expects companies to offer include teleconference storage and retrieval, protocol conversion between incompatible computers and terminals, and delivery of messages to multiple addresses.



EYEIONS... "Good for us, good for everyone."

Software jury fails to agree

AN ESSEX jury has failed to reach a verdict in an unusual computer fraud prosecution. The case was brought by police against Alan Philip, of London-based software house Wynsana, and will be re-heard at Chelmsford Crown Court in November.

Philip was accused of inserting a "software time bomb" into a commercial package that Wynsana was developing for Bishop's Stortford systems house Peter Arundell.

Prosecuting counsel suggested a possible motive for the alleged tampering - that Wynsana would have to be called in to fix the bugs and would profit from the extra work.

Philip ignored this accusation, and insisted that he did not tamper. He agreed that the programs had been tampered with, but claimed that it would not take much programming expertise to effect the offending changes. Anyone with a vague knowledge of the system could have done it, he said.

The case was described as being of "unusual technical complexity."

Marketing award for BIS Software

by John Kavanagh

FINANCIAL systems specialist BIS Software has rounded off a good year by winning the Institute of Marketing's annual marketing award. Last year the company was runner-up. In 1982 it has announced an 87% turnover increase to £6.5 million and won the Queen's Award for Export Achievement for the second year running.

BIS Software is the flagship in chairman Brian Allison's BIS group. It accounts for over 40% of

the group turnover of £14 million.

"We consciously improved our marketing this year," said marketing director Stan Smith. "We designed a good corporate identity into all our literature, we went international straightaway with new products and we introduced more formal marketing methods. This was important because of our growth as you grow you have to back-up your good formal back-up, manuals and training."

BIS Software has about 300 staff worldwide. This year it has opened

offices in Singapore and Bahrain.

The Institute of Marketing's award is given for marketing achievement and performance, growth, profit and technical innovation.

Peter Blood, the Institute's director general, said it was encouraging to see industrial companies, rather than the usual household name consumer goods manufacturers, winning the four awards offered.

"Because of the recession many have sharpened their marketing skills," he said.

Philips, Intel in joint microtechnology venture

by George Brown

DUTCH electronics giant Philips early this week announced a joint venture in microtechnology with chip maker Intel.

Philips is likely to gain from the American semiconductor manufacturer's know-how, but would not comment this week on suggestions that it was paying for Intel's assistance.

Philips' expertise with CHMOS (complementary high-performance metal oxide semiconductor) tech-

nology is thought to belong to the previous generation of chips, not the present one. Intel is now considered to be the field leader.

The new agreement means that Intel will give Philips and Signetics, its American semiconductor firm, specifications for integrated circuit chips.

CHMOS is the first of a new generation of components to replace HMOS. The new chips are as fast as their predecessors but cut down on power drawn. By 1984 all

Intel chips will be made on this model. The CHMOS chip is still twice as costly as the HMOS, but Intel's marketing manager Joe Baranowski thinks that in two years' time the margin will be down to 40% and in 1986 they will be of equal price.

Intel is going for microcontrollers instead of microprocessors - that is, dedicated single-chip computers rather than general purpose data processors.

Baranowski claimed that Intel was well ahead of its Japanese rivals in this development. As Intel is looking for a big European market, the Philips link may be significant.

Philips is expected to offer Intel details of a more efficient means of connecting integrated circuits.

The deal is intended to last for seven years. Both companies will have the option of manufacturing products developed during the period of collaboration.

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UK 16-bit micro market 'to hit 60,000 next year'

UP to 60,000 16-bit microcomputers could be shipped in the UK next year. The market will be spurred by the arrival of IBM and Digital Equipment offerings in large quantities, with estimates that each company could ship 20,000 of the machines to UK users in 1983.

These are the back-of-envelope estimates of Applied Computer Technique's managing director Roger Foster, who sees the ACT Sirius leading and then riding in the hoon in 16-bit microcomputer shipments.

Over 3,000 Sirius machines have been sold by ACT so far this year, and Foster reckons the number could reach 10,000 in 1983.

But Foster's interest is more in the software for the 16-bit machines. ACT formally announced its Pulsar family of integrated business software in London last week, and Foster said he expected ACT to become the No 1 supplier of software for 16-bit micros.

The ACT software, which includes eight home-grown packages as well as third party products such as Wordstar, SuperCalc, dBase and Micromodeler, will be fully portable, Foster claims. Tests have already been run with the IBM Personal Computer, and Foster can foresee no problem running on the DEC Rainbow.

ACT is "talking to IBM, but not sure they are talking to us", Foster said. He hopes that at the least IBM will approve the Pulsar software, but his aim is to "make Pulsar a brand name in its own right."

ACT's turnover in 1982 hit £8.8



FOSTER... "Big shake-out in the dealer marketplace".

million, and Foster expects it to double this year, mainly because of the influence of the Sirius. The company's sales have climbed steadily from £643 million in 1974.

Each package in the Pulsar suite, including documentation, costs £195, but a discount of up to 60% will be offered to the larger dealers.

Foster stresses that the dealers must be allowed to make a decent profit, and at his presentation before 300 of them last week he encouraged them to get more added value on their sales, for instance in

the area of maintenance.

Foster, with others, sees a big shake-out in the dealer marketplace, particularly with DEC and IBM coming into the market and selling direct. And big retail chains like Granada, which has its eyes on the IBM Personal, will also give the established dealers a run for their money.

Foster emphasises that ACT is a software company. The company has spent £1 million on developing microcomputer software so far, and plans to spend at a rate of £400,000 to £500,000 a year.

US prices slashed on 4300s

by Kevan Pearson
IBM has boosted its 4300 series with two new processors, including a new top system. It has also cut prices on existing machines, by up to 34% in some cases.

IBM will also support its Small System Executive (SSE) on all 4300 machines. Previously it was available only on the entry level 4321 system. Price cuts of up to 34% have been facilitated by a cut in memory prices from \$17,500 a megabyte to \$10,000 on all machines, thought largely to be due to the recently announced cross-licensing deal with Intel on 64 Kbit RAM devices.

The new top system, the 4341 Model 12 is rated at about 1.6 mips, and is available with up to 16 Mbytes of main memory. Six channels are standard, and a top performance will cost about \$500,000 in the US. There is also a new 4341 entry level system. The 4341 Model 9 costs \$81,000 and is rated at about 0.6 mips.

Deliveries of the 4341 Model 9 are expected to start in March 1983, with the more powerful Model 12 coming a month earlier. The existing Model 2 will be field upgradeable to Model 12 specification.

In addition IBM has cut the prices of its 4321 and 4331 machines by between 20 and 34%.

However, it has increased lesser-tenal charges by between 5% and 10%. Prices on the 4341 models have been cut by 8 to 18%. Maintenance charges on these machines have been cut by about 10%, but lesser-tenal charges remain unchanged.

One US-based IBM watcher said it looked as if IBM was having a clear-out of the 4300 range by cutting the price/performance ratio of its small systems. The price cuts have also increased the likelihood of an autumn launch for the Olympia series.

The company performed a similar price-cutting act with the 3033 large mainframe systems before the announcement of the 3081 series machines, in October 1980.

John Curran, marketing vice-president of National Advanced Systems, which sells both small and large IBM compatible computers, said he had expected a larger increase in performance than IBM had actually made. He said the new machine was "8% to 15% more powerful than the 4341 Model 2." But it is not the 4300 series replacement, he added.

The price cuts are bound to produce a competitive reaction from the plug-compatible suppliers who traditionally undercut IBM by about 25% in price/performance terms.

SALES BRIEF

\$6m order for Unix supermicros

PLEXUS supermicro system worth \$6million, operating under Unix, will be supplied to the Q2 formative Interactive Systems Corporation over the next two years.

Interactive, an international Unix systems developer and supplier, will sell the Plexus systems to major international companies.

Lab system

A £90,000 order by Mersey Regional Health Authority for Citi Phoenix Laboratory System, the number of regional health authorities using this system is seven. Another £100,000 order is to be announced within a month to this effect.

TV program

TV-AM, the new breakfast work, will be the first television company to have its program schedules completely computer controlled, claims Bracknell-based Protel Computer Systems. Protel was awarded two contracts to supply presentation planning and supply systems when it made its debut at the International Broadcast Convention in Brighton recently.

Argus for BSC

FERRANTI is to supply the new computer systems to control blast furnaces in Scunthorpe. £66,000 order was placed by the British Steel Corp last week. The Argus 7000G equipment will be backed up by Ferranti's own software for BSC management information systems.

Instant success

SINCE launching its 223 minicomputer at Stobbs last month, Primc has announced two major orders worth about £2 million in North America. The Brookwood-based software house Wootton 10 freys has placed an initial order for 11 of the larger one Mbyte 225 valued at about £260,000.

Storage boost

CABLE and Wireless is to buy Xylogics C850 peripheral controllers for its Data General KX-Logics Charles Whiffin said the order would be worth several thousand pounds. C & W will use the controller to boost disk storage capacity for customers.

Swiss control

MULTI-NATIONAL companies manufacturer Bouris is to buy a £90,000 order processing and stock control system from E-roco of London. The system will be controlled from Switzerland at an HP3000/64 with multi-day lines to sales offices in Germany, France, Belgium and England and links to factories in Scotland and Ireland.

More for Italy

ITALIAN Post Office is to take 50 more Philips viewdata terminals having invested £200,000 earlier in the year in the product. The 14-inch colour terminals were manufactured in the UK. The viewdata systems are now also undergoing trials in Australia and North America.

Hospital system

A WISCONSIN hospital will install a \$1½ million Sperry Univac computer with Mapper software. The 100/62 multiprocessor will control patients' admission, discharges and transfers, medical records, pharmacy, payroll and accounts.

Ford \$1½m order

CAR and truck design by the Ford Motor Company is to be aided by UltraGraph workstations for Lundy-Farrington. An order worth nearly \$1½ million has been placed by Ford for three-dimensional interactive graphics design workstations.

NRDC faces an uncertain future

by Kevin Cahill
DESPITE record income - over £18 million in the bank and £50 million in undrawn loans authorised by law - the National Research and Development Corporation is facing an uncertain future, according to chairman Sir Frederick Wood.

The NRDC was set up in 1949 with a specific brief to develop inventions coming from government bodies, and more occasionally from industry and the academic institutions.

Over the years the NRDC, which now operates under the umbrella of the British Technology Group, has accumulated a total of 6,395 patents.

Last year, it produced £26.21 million income from various developed patents including the Ferranti Ceter CAM X computer-aided design system and Plessey's Stored Program Control system.

Of the income, which was £4.3 million up on the previous year, the corporation re-invested £11.56 million, much of it in new ventures like Cobol software tools with Micro Focus.

After providing for taxation, the NRDC added £5.02 million to its existing accumulated surplus of £15.63 million, to leave an unspent total of £20.65 million.

The NRDC has a monopoly right to take up and develop inventions created in government bodies, but earlier this summer a group of MPs called for an end to the monopoly right.

Sir Frederick also said he had no indication that the government intended to make time for the legislation formally to merge the NEB and the NRDC into the British Technology Group "before the next election".

There is a continuing study in Whitehall into ways of eliminating overlap between the old National Enterprise Board and the NRDC.

Generally, the NEB was used for major investments such as in-

mos, Ferranti and ICL, while the NRDC was used for smaller investments.

In practice much of the overlap has been eliminated by the way the ex-NEB and NRDC staff have been merged at the BTG. But there is little likelihood that the current government would allow the NRDC to spend the £50 million in additional lending voted for it in 1967 and never spent.

The NRDC has no bank borrowings and total reserves and accumulated surplus of £38 million.

Sir Frederick disclosed that the British Technology Group's ability to take an equity (share) stake in companies was under review.

Without that option even Sir Frederick had doubts about how the BTG would be able to operate.

There is now a clear possibility that the current government intention is to limit, perhaps even wind down, the rump of both the NRDC and the NEB behind the

BTG.

BCS to stage robot 'assault course'

by George Brown
SIX robots designed by students will battle it out over an assault course as a spectacular climax to a British Computer Society competition to be held in Milton Keynes next July.

The voice-controlled robots will have to go round a route strewn with obstacles, lifting and moving and stacking boxes as they progress.

More than 50 colleges and polytechnics throughout the country have already offered to compete. They have to submit their plan by the end of the year, when the judges will invite six entrants to have their designs constructed.

The short-listed projects will get a £3,000 subsidy from the sponsors, who include Hooeywell, Texas Instruments, the Department of Industry, Hall Automation, Milton Keynes Corporation and ASEA. Any money needed above the amount will have to be provided by the college.

"We didn't want to give big companies carte blanche to promote projects as it is intended to be a low-budget exercise," said Julian Bray of the British Computer Society. The society is celebrating its silver jubilee this year.

The members of the winning team will receive £50 each as a prize. "It's not a lot, but we think

they will be snapped up by industry anyway, so their participation and certificate will be more valuable to them than the prize-money," Bray added.

The competition is the first of its kind run by the BCS and others may follow.

The rules allow up to eight to a team, who are expected to be mainly technicians on TEC HCHD courses.

The judges will include nearby Cranfield Institute of Technology's vice-chancellor Sir Henry Chilver and robotics professor Keith Rathmill as well as representatives of all the sponsors. A BCS/Honeywell trophy will be presented to the victors.

Milton Keynes is already well on the way to becoming "Roboville", with companies such as Remek and ASEA on its territory and Cranfield close by, and the competition will help to consolidate its reputation as a major IT centre.

IT Minister Kenneth Baker has welcomed the competition and said that robots would play a crucial role in improving the competitiveness of British industry.

"Our young people at school and in colleges are the country's greatest resource and I place great importance on encouraging them," the Minister added.



WOOD... Doubts about how BTG will be able to operate.

\$5 million fraud suit for HP

by Howard Karten

HEWLETT-PACKARD stands to lose at least \$5 million if a small business in Boston, Massachusetts, wins a suit it filed last week.

Harry Miller Co, a manufacturer of marine products, filed the suit in the US District Court in Boston, charging Hewlett-Packard of California with fraud and deceit.

According to Tom Christo, attorney for Harry Miller, Hewlett-Packard sold the plaintiff a machine "that was too small and too slow for the application".

Christo said that HP represented the machine, an HP 3000 Series 33, as a replacement for a to-be-discontinued model, when in fact the Series 33 was of a totally different architecture from the rest of the HP 3000 series.

The suit seeks \$5 million in compensatory damages and could cost HP more if it is found guilty of deceptive practices. But it could be years before the case comes to trial, in California.

A spokesman for HP declined to comment on the suit.

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Major announcements are imminent... Kevan Pearson reports

IBM to cover the gaps in its middle range

IBM is now widely expected to launch its first Olympia machine, to fill the gap in its product range, late in November. Last week it gave notice of its intentions by stretching the 4300 range, and by cutting 4300 prices in the US by up to 34%.

The stretched 4300 range now goes up to over 1.8 million instructions per second. But even this increase is short on the expected 2.5 mips from the as yet unnamed Olympia machine. And this itself could be immediately followed by a more powerful version, around 3.5 mips, placed in the market to provide a swing machine to move 4300 users from DOS/VSE, IBM's small mainframe operating system, to MVS and even Extended Architecture.

Pricing and delivery decisions on the new machines will have a crucial impact on IBM's already announced machine, particularly the low-end 3083E rated at just over 4 mips.

John Fuller, a director of the independent lessor, PCML, expects IBM to price the 2.5 mips machine at about £350,000, and the 3.5 mips version at up to £500,000. This would make the machine attractive to users with a long-term interest in moving to IBM's new architecture embodied in MVS/XA, provided that IBM supports XA on the new machine, which it is expected to do.

IBM's present product line-up contains a sharp halt for 4341 users who have run out of power, and who are thinking of planning for the future. The 3033, effectively replaced by the 3083, in April 1982, though still being made at Montpellier, according to Fuller, represents a large jump from 1.6 mips to about 3 mips for most 4341 users. It is water-cooled, very expensive at about £900,000 new,



FULLER... Expects the 2.5 mips machine to be priced at £350,000

closed water loop. And it is designed as an XA machine. But again it is expensive. Nor at the moment, does it support VM or VM-like facilities, although this is expected to be remedied.

But it still means a radical departure for a 4300 user: it is based on a different technology, and its facilities are designed for more extensive use than envisaged for the typical 4300 user.

Consequently a 3.5 mips DOS/VSE and MVS/MVS/XA machine is much needed in IBM's product line, to move up 4300 users. In many cases the 3083 is unusable for this.

A bottom end 3083E costs over

£800,000, and IBM will not deliver the machine until 1984, despite the prodigious user interest in the 3083 series. It is estimated that there are well over 1,000 orders for the 3083 in Europe, alone.

IBM is soon to start delivery of the middle machine in the range, the 3083B, and will start delivery of the top model 1 early next year.

The problem it faces is that it costs as much to build a 4.2 mips version as to build a top performance 9 mips machine, though the latter is over twice as costly to the user - £800,000 opposed to £1.7 million.

At this stage in the production cycle the 3083E will not be profitable for IBM. By 1984 it will be, but in the meantime IBM needs to give some hope to the myriad 4300 users. They are locked out of IBM's long-term plans, based on already announced machines.

IBM needs to announce the Olympia machines to reassure these users of their place in the IBM fold, and to provide them with the means of moving to MVS/XA, which represents the only long-term development in IBM's operating systems, and many observers feel will become IBM's only mainline operating system for mainframe computers.

DOS/VSE is likely to be unusable for the high performance computers currently being developed.

The other reason IBM will have to launch the Olympia range is that it has already committed considerable money to the project, which was already well under way when the 4300 series was announced in 1979.

Besides, judging from the amount of legal activity against the PCM manufacturers in the US, IBM is concerned about them,

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Modern return for McNulty

by Robert Parry
DISPOSSESSED but undaunted, former Modular Technology owner John McNulty has bounced back. His return will be marked by the formation of a new company, still in the computer communications business and still based in Watford, to be called Modern Technology.

The new company will be staffed by his old team - who left Modular Technology when the receiver was called in at the end of July - and will be coming out with new communications products.



McNULTY... "We are moving forward into higher technology".

This time his company will be financed by "real money that actually belongs to people," says McNulty. Among McNulty's "good friends" are Clive Sinclair and two other UK microcomputer makers, Rair and Turch. These two will be helping with export effort, particularly in the US where they are well established. The Torch link was in

evidence last week, when the fledgling Modern Technology had a stand at New York's Info 82 show, much assisted by neighbouring Torch personnel.

"The New York stand was a little premature," admits McNulty. "It was a carry over, which unfortunately fell in the interregnum."

Graduates set up consultancy on campus

by John Kavanagh

TWO graduates fresh from East Anglia University have formed their own consultancy on the campus and are offering clients the specialist computing skills of the university's lecturers.

Synergy Computer Systems of Norwich is run by computer science graduate Sonia Kennedy and accountancy specialist Stephen Barrett. The third, part-time director is Trevor Wood-Harper, a computer science lecturer who specialises in systems work.

Synergy is concentrating on microcomputer systems for local small businesses. It sells the British Micro system, IBM's Personal Computer and the Apple, mainly with existing standard software packages.

But customers seeking tailored systems, computer-aided design packages, control engineering consultancy and scientific systems can call on 13 professors, PhDs and MScs specialising in these fields.

Thomson to shut IC venture

by Jack Gee

THOMSON-CSF's prospects of playing a key role in France's computer components industry appear seriously jeopardised by the likelihood that the microelectronics department of its subsidiary Cameca is about to close.

Cameca has been developing equipment to manufacture integrated circuits for the past three years and over £4 million has been invested in the venture.

Asked about reports that the shutdown was imminent, a Thomson official replied, "Well, it would make sense."

Industrial circles are discussing the possibility that Cameca's operations might be absorbed by Matra.

Matra's role in developing a French components industry has been enhanced by the creation of a joint subsidiary with the United States' CGA in Nantes, on the Atlantic coast, to design and produce equipment to manufacture semiconductors.

The new firm will sell this equipment in Europe while CGA will market it worldwide. Matra-CGA will also have exclusive sales rights for American-made CGA products.

The new alliance marks a big step forward for Matra which has been operating an integrated circuit factory in partnership with

Harris since 1979 in Nantes. The staff now exceeds 400 and the new Matra-CGA venture will create 130 jobs by the end of next year and about 1,000 by 1987.

Having the new Franco-American alliance, French Premier Pierre Mauroy said, "This agreement sets us a number of examples which are worthy of being followed. It makes sense of what we call the electronics channel."

The five-year plan for the electronics industry is now being drafted by government officials and industry to which the government is giving priority.

The Prime Minister said Matra's lead in establishing vertical integration in component production showed how a State shareholder (the government controls 51% of Matra) and a company could work together.

In contrast with this new feather in Matra's cap, Thomson-CSF not only looks like losing Cameca but has turned in a discouraging loss of £46 million for the first half of the current year. A red ink entry of over £80 million for the year is now considered unavoidable.

Thomson, which represents half the entire turnover of the French electronics industry, attributes its poor performance to setbacks in sales for medical equipment and computerised telephone exchanges.

Timeshare bureau takeover

by John Kavanagh

A UK company which has made its name in paging and mobile radio is on the takeover trail in a bid to become a significant supplier in the computer communications business. The company, Air Call (Holdings), has taken the first step by buying 75% of the UK time-sharing bureau Allen Computers International.

"We have moved into cellular radio, which involves sophisticated computing, and at the same time communications generally is depending more on computers with the growth of information technology," said company secretary Ray Pipe.

"We therefore want to expand our technical base. We want companies which have been successful in particular markets. What those markets are doesn't concern us too much as long as the management is good. Allen has a good record, a reasonable profit and good staff."

Pipe said Air Call was looking for at least £5 million worth of computer business in three years' time. Allen's turnover is now about £1.5 million. Air Call Computer Systems, which has grown from the company's computing section, has an income of over £1 million from selling packaged software on Hewlett-Packard computers.

Pipe added that Air Call hoped for cross-fertilisation of ideas between its companies, although each would keep its own identity.

The Allen takeover involved a £150,000 down payment and the prospect of a further payment depending on growth and profit over the next three years. Allen, formed in 1971, was previously owned 100% by managing director David Allen and director Harry Wingo.

IT trade missions to Saudi Arabia and Japan

by Philip Hunter

THE newly-formed information technology export organisation ExportIT is well on its way, according to an independent report just published. It can make a great contribution to UK exports by providing details of overseas markets, and helping companies to display their wares at trade fairs.

The study, by management consultants Peat Marwick Mitchell, was commissioned by ExportIT to help plan ahead.

Two aims are declared for ExportIT: to make the UK a significant exporter of information technology, and to become self-financing by 1985.

Meanwhile ExportIT is finishing IT Year with a flurry. It has organised two trade missions to Saudi Arabia and Japan, and is running stands for UK computer companies at two major trade fairs.

The first trade exhibition is Comdex, at Las Vegas in November, when 12 UK companies will shelter under the ExportIT umbrella, including ICL, Package Programming Ltd, and Videcom. A few will also be there independently.

A 10-day sales mission to Jeddah, Saudi Arabia, is taking place from November 15-25, with two or three places still vacant.

ExportIT is also organising a UK contingent at the second Gulf Computer Show, in Dubai in December, and sponsored by Middle East Computing.

Computing trainees from the United Arab Emirates are to get programming and analysis courses from the UK's National Computing Centre. The NCC has won a £100,000 contract to train 11 students from the Ministry of the Interior in Abu Dhabi.

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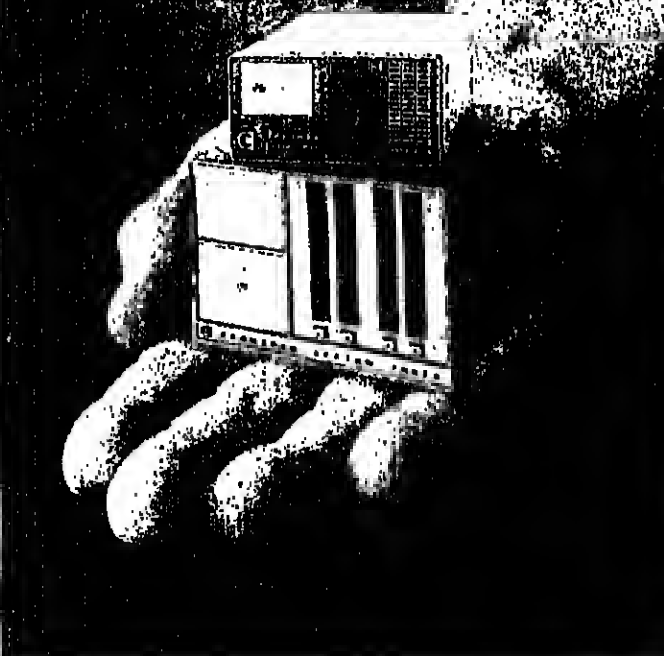
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The new software library is comprehensive. There is a 16 Bit version of the proven Cromix Multiuser operating system, (now it will support up to 18 users or tasks). There is a new Fortran 77, designed for creating larger programs in a science/engineering/research environment, and COBOL, PASCAL and 'C', a Structured BASIC, and a 68000 Assembler.

Overall the Cromemco 16 Bit Systems extend the existing boundaries of microcomputer application. In particular, they offer the Scientist and Engineer the opportunity to dramatically reduce the cost of performing the complex mathematical functions required in multi dimensional design, simulation and analytic processes.

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The 'here today, gone tomorrow' philosophy of unauthorised dealers is working against both manufacturers and users . . . John Kavanagh reports

Cowboy dealers ride roughshod over users

THE terminal market is in danger of becoming known as the cowboy business of the early Eighties as major manufacturers and distributors — and end users — are hit by the antics of "here today, gone tomorrow" dealers.

That is the view of Tony Beswarick, UK manager of Geveke Electronics, the Netherlands-based company which distributes printer terminals from Diablo and Newbury Data. It also sells its own terminals, made to its specification in the Far East.

As the biggest Diablo outlet in the UK, and therefore close in the small and medium-sized system builders, Geveke feels it represents the industry's view at a time when some manufacturers — notably Digital Equipment with its so far ill-starred authorised distributor scheme — are trying to bring discipline to the market.

But Beswarick says some of those very manufacturers are turning a blind eye to what is happening.

"Good products are becoming available through unauthorised dealers," he says. "These little fly-by-night companies might be selling peripherals to small but reputable micro system houses or offering complete systems to small businesses. Micros have standard interfaces so anyone can plug in a printer, provide a standard software package and call it a system."

"They can often get printers, say, at good rates by dealing with outlets in different countries where a local firm might be overstocked

and happy to sell them off cheaply. It is difficult for the manufacturer to control this on a worldwide basis.

"These disreputable dealers offer little or no support. Some have trouble putting a plug on, so they are certainly not testing the devices to ensure they have a proper UK power supply, for example. This means they have



BESWARICK . . . "Some manufacturers are turning a blind eye."

few overheads and can offer very low prices to the small user or systems house. But these are the very people who need the support.

"The customers are happy at first because they know the product is well established and has a good reliability record, so they're glad to get it at a knock-down price.

"However, the dealer flits from one product to another, depending on where the best deals are to be made, so there is no commitment to a particular product. There are no stocks of spare parts or knowledge of how to do minor repairs. For example, even an occasional small adjustment to a printer can make a big difference to print quality.

"Instead the dealer, if pushed, will offer to swap the device for another, perhaps from a different manufacturer, even. If the dealer has disappeared or refuses to listen the customer can be stuck, for the manufacturer cannot be seen to be supporting the fly-by-nights. So even the very best product from a top supplier can start to get a bad name. And that bad name can soon affect the reputable distributors and ultimately the manufacturer."

Beswarick feels the manufacturers are not doing enough to stamp out the disreputable dealers. Indeed, he believes some are turning a blind eye.

"It's a big problem for the leading manufacturers," he says. "They naturally want to shift as many products as possible. But they must decide whether they just want to make big money very quickly or whether they are going to support users and sell properly as a long-term investment."

Digital Equipment, with its authorised distributor scheme, is one of the manufacturers trying to sort out the terminal market. The scheme was launched in the UK eight months ago. Some of the

distributors are unhappy with the scheme, pointing to instances where they have been undercut by "unauthorised" dealers and faced competition from DEC itself.

DEC puts most of the problems down to teething troubles and promises a happy Christmas to all the authorised firms.

Meanwhile Diablo distributors have complained that Xerox, Diablo's parent, has been dumping its printers at better prices than the authorised distributors can offer. This means the manufacturer itself is helping the fly-by-nights with cut-rate products.

Beswarick says reputable distributors should now demand that the manufacturers endorse their "official" distribution networks as the proper outlets for their products.

"Authorised distributors offer assurances to both the customer and the manufacturer that there is a proper, reliable interface between them," he says. "A distributor specialises in being a trading organisation and is set up to reach and support corners of the market which the huge manufacturer cannot hope to find, let alone support, without massive investment in marketing staff and field service engineers."

"It is committed to specific products, unlike the fly-by-night, and has the trust of the manufacturer, which should provide information on existing and forthcoming products so the distributor can gear up to provide full support."



Everything must go — but cut-price products benefit only "fly-by-nights."

Geveke is staying committed to the popular Diablo range but is also looking towards European products so that it can put more pressure on the manufacturers for a disciplined market; manufacturers which are closer to band. It supplies matrix printer terminals from the UK company Newbury Data — and is having its own display terminals built in the Far East. This, too, is a response to the changing market.

"US manufacturers find more and more that it's cheaper having their products made in the Far East," says Beswarick. "So they get one of the many high technology manufacturing specialists there to build their products. But this means the US firm takes on a dual role — it calls itself the manufacturer but it has really become a distributor."

"We have cut out this extra link and got a manufacturer in the Far East to make our Visa terminal range to our specification and ship them direct to us."

Beswarick also claims the Visa terminals are designed specifically for Europe. US manufacturers, he says, are slow getting round to producing European character sets; Geveke designed them in for different countries from the start. And by aiming just at Europe Geveke has immediately overcome the big problem with US terminals: power supplies.

Geveke developed closer links with manufacturing partly because of the way the terminal market was going. Not only does that move give the company control over the disreputable elements, in the display terminal market at least, it is also an eye-opener for US manufacturers accused of acting unfairly towards their distributors.

SOFTWARE FILE

Digital Research bid to stay on top

by Claire Gooding
DETERMINATION to stay on top of the micro market is the key to Digital Research's wholesale upgrade, announced last week, of the CP/M operating system.

In the face of stiff competition from Microsoft, which has MSDOS and Xenix on offer, Digital Research has to convince European and US users that CP/M can be expanded to cope with the more sophisticated demands of the 16-bit multi-user market.

The company also has to combat the unpopularity of its multi-user solution MP/M, which does not have a good reputation in terms of response time and performance.

Its answer to these problems is Concurrent CP/M, launched at NCC earlier this year, and announced last week for the IBM Personal Computer. Other enhanced versions will cope with the growth path to multi-tasking, and Local Area Networking, whereas

MP/M II, described by Gary Kildall, founder of Digital Research and originator of CP/M, as "very solid and successful" is the great white hope for the multi-user market.

What we've done is to produce a family of integrated products, for everyone from the single-user CP/M system upwards through Concurrent CP/M in the larger users who want networking and multi-use operations," said Kildall.

Digital Research is claiming that Concurrent CP/M-86 is the first true single-user multi-tasking operating system for 8086 and 8088 microcomputers. Kildall's R&D team aimed to give the user full control of his own operations by making the OS more co-operative in dealing with several different tasks at once. Virtual screen management, and running in virtual output mode (similar to "real time" operations), are the vital factors in Concurrent CP/M-86.

Under Concurrent CP/M, users can swap from one task, and one screenful of information at one keystroke.

Users will also be able to run a process "in the background" while working on another task on the screen.

Kildall champions the small user, and sees the priority as giving the individual user as much power and flexibility as possible.

"The way forward is for computers to deal with pictures, not processes. We are working towards systems like Xerox's Smalltalk, with lots of processes shown on the screen together, splitting the actual screen up into tasks, and controlling them with a mouse."

Digital Research has concentrated on making its operating systems easy to use.

Kildall feels that the enhanced CP/M offering will take care of the mainstream business, which he still sees as the one-man user.



KILDALL . . . "The way forward is for computers to deal with pictures."

Aid to vector matrix manipulation

A PREPROCESSOR for standard Pascal compilers has been announced by the Worthing company Unit-C. Called Matrix Pascal, it was designed by Logical Research as an aid to vector-matrix manipulation.

"It should be particularly useful in structural design for the engineering industries," says Nigel Hepworth of Unit-C. Pascal text is passed through the preprocessor and only lines containing Matrix Pascal variable are expanded.

25th conversion

ITS software package used on mainframes and large minis has been converted by F-Stat of New Jersey for the Wicat 100 and 150 superminis. It is the 25th conversion of the package.

APL group

AN APL user group has been formed by seven companies with micro interests following the recent APL '82 conference in Heidelberg. The International APL Micro Association comprises firms from England, West Germany, Denmark, Sweden, Belgium and the US.

First Ada compiler to meet draft Ansi standard in UK soon

by Philip Hunter
THE first Ada development system with a compiler that conforms to the draft 1982 Ansi standard for the language has been announced in the UK by the US computer and telecommunications giant Rolm. Orders for the new Work Centre have already been received from leading US defence contractors, and shipments to the UK will begin in January.

So far only two languages, Cobol and Fortran, have standards laid down by Ansi, the American National Standards Institute, universally held as the leading standards body.

Ada will be the third language to be given a standard, although Ansi has not yet released a final version. Rolm claims to have seen the draft specification, and developed its Ada accordingly.

"We have beaten Ansi to it in a job," says Rolm Northern

European sales manager Gavin Roriston.

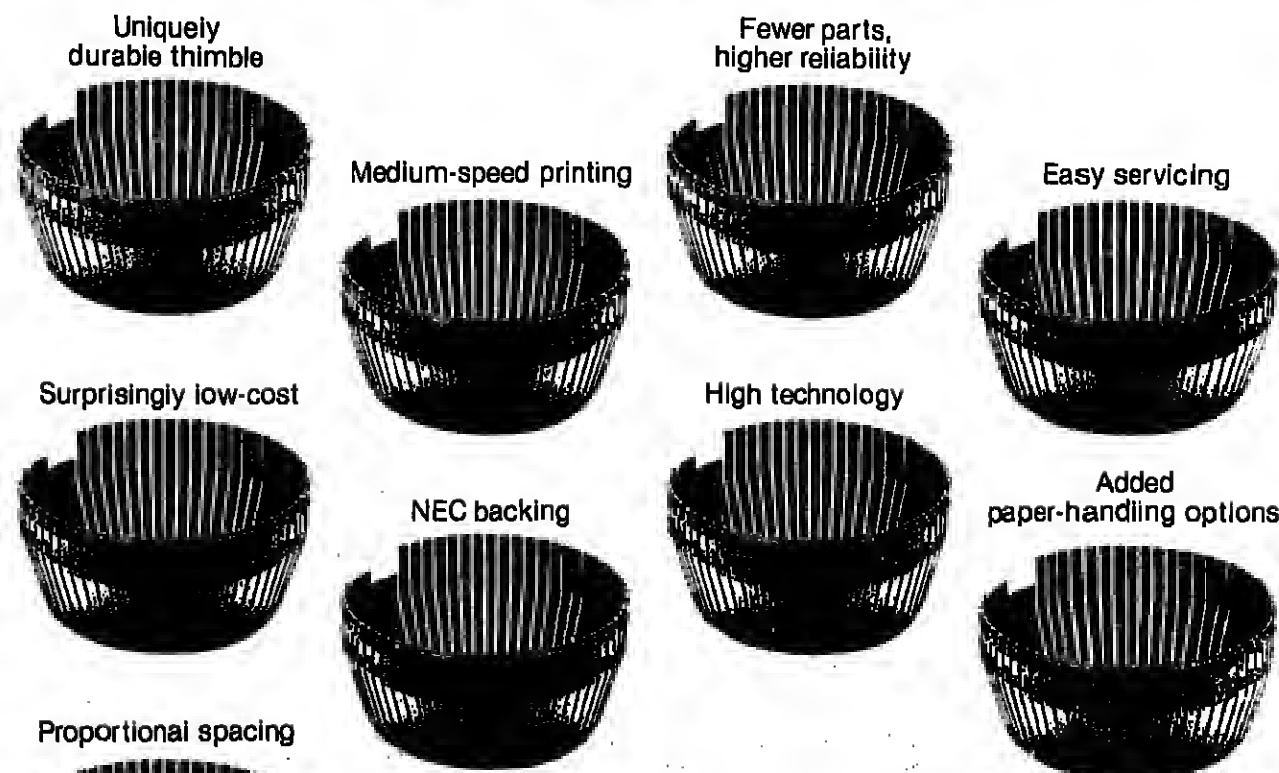
Two other US corporations, Intel and Western Digital, are said to be working on Ada systems to the 1982 Ansi standard.

Rolm claims that its system is the first completely integrated package of hardware, software, and technical support available for immediate Ada program design. It includes the compiler and Ade, the Ada Development Environment with a multi-terminal 32-bit processor, the Rolm MSE/800.

The full workstation including hardware, and a year's maintenance, costs \$580,000. A licence for the software development tools costs \$32,000.

The Work Centre was developed by Rolm's Mil Spec Division, which has also recently announced a range of rugged military hardware for the battlefield.

A thrifty new generation of "thimble" printers.



NEC's Spinwriter 3500 Series

If you're thinking about choosing a "daisy wheel" printer, think again. In the long run, NEC's new medium-speed Spinwriter 3500 Series may well be the more cost-efficient choice.

Our unique thimble element gives more characters in many languages. In fact 128 versus the more common 96.

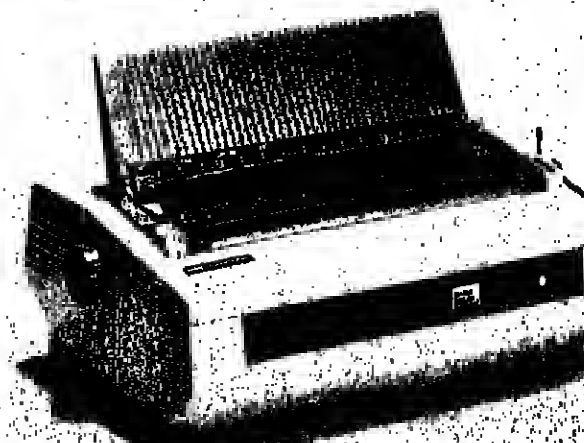
By dramatically reducing the number of components in the Spinwriter 3500 Series, we've made it one of the most reliable and cost-effective printers you can own.

The new 3500 Series also comes with a wide choice of paper-handling options and the latest word-processing features such as proportional spacing.

All this, and full backing by NEC—one of the world's largest electronics manufacturers.

NEC
Nippon Electric Co. Ltd.

For U.K. and Europe, please contact: NEC Telecommunications (Europe) Co. Ltd., 44-66 Quorn Road, Quorn, Leicestershire LE12 8JH. Tel: 01-508-6100. Telex: 267014 NEC LTD. For West Germany, please contact: NEC Home Electronics (Europe) GmbH, Wenden Strasse 140, 2040 Neuhaus 1, West Germany. Tel: 02101-878-0. Telex: 851781-NECH D.



NEC Spinwriter 3500

DP MANAGERS: ARE YOU CONTROLLING THE MICRO REVOLUTIONARIES?



Life used to be simple in DP departments—a mainframe or two and perhaps a few minis neatly connected and the DP Manager firmly in the driving seat.

That was before those all-pervading micros started invading user departments, and the users became as expert as the DP Manager—or thought they were.

With so many different micros in use, how can DP Managers be expected to provide central support effectively?

The answer is to insist on BOS Operating Systems. BOS Operating Systems are compatible across 50 different micros, including all the big-name Silicon Valley and British manufacturers.

So with just one type of software all programs will run identically on every micro within your company.

BOS/5, MBOS/5 and BOS/NET offer a totally

compatible upgrade path from single user operation to multi-user and local networking. They span the entire range of micros from 8-bit Z80s to the new generation of 16-bit processors, the 8086 and M68000—not to mention the IBM Series/1, the DEC PDP-11, the DG Nova, and the Texas 990. BOS Systems are compact enough to operate a 64K personal computer, yet powerful enough to exploit the Winchester disks, cartridge tapes and megabyte memories of the modern multi-user micro.

Is your problem developing software for micros? Then don't fight the revolution, join it! Join those in government, industry and commerce who have already standardised on BOS software for their development, using the BOS Cobol Compiler, Screen Formatter and AutoCheck Report Generator.

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MICRO NEWS

Dutch shake out the fake Apples

APPLE'S crop of Asian counterfeiters continues to dog the Cupertino company. It is pursuing court action against manufacturers of imitation Apple IIs to protect its rights and hold on to its market share.

Its latest success in the fakes war was in The Netherlands, where the Amsterdam District Court has forbidden a Dutch company, CAB Trading, to continue to sell the Apollo II, an Apple II copy from Sunrise Computers of Taiwan.

Distribution of a brochure using terms like "Apple II compatible" and use of the trade name Apollo were also forbidden.

The court ruled that the name Apollo was a direct infringement of Apple's registered trademark, and that the overall behaviour of CAB Trading was "intolerable and represented unfair competition."

The external and technical design of the Apollo II was deemed a direct copy of the Apple machine, and the Apple software in EPROM was found to be copied.

This court action started after the fake machine was shown at an exhibition in Amsterdam.

Apple's stance is one of systematic

ally taking legal action against lookalikes when it can do so effectively. So far actions have been concentrated in the US and the Far East, where Apple fakes are most prevalent.

"We haven't seen things like the Apollo here in the UK so far," says UK managing director Peter Cobb. He feels the position is secure here - more so than on the Continent.

"But if we see anybody coming, then we'll go for them."

Meanwhile in the US, Apple has filed a civil action in Los Angeles alleging copyright, trademark and patent infringement against Formula International. Apple charges Formula with knowingly importing and selling a kit - called Pineapple - which assembles to a virtually identical Apple II copy.

Apple says the suit is to supplement US Customs action, by which Apple copies being imported into the US are confiscated. It seeks to stop Formula from selling the Pineapple kits, which come from Hong Kong or Taiwan, and to impose all allegedly infringing items - as well as to collect unspecified punitive damages.

COBB... No Apple lookalikes in the UK so far.



MoD to pump £6m into high power chips

BRITISH electronics development is to receive a £6 million boost from the Ministry of Defence. A new laboratory is to be established at the Royal Signals and Radar Establishment in Malvern, where the MoD funded programme is being planned as part of work on the very high performance integrated circuit (VHIC).

The centre at Malvern would allow Britain's main defence contractors access to production techniques for high-powered chips, working up to 100 times faster than the current crop of microelectronic devices.

These main defence electronics companies are GEC, Plessey and Ferranti. No date has yet been given for when the laboratory will get underway.

Approval for the VHIC project was given two months ago, so the project could begin in April next year. But the prolonged deliberations of the Alvey committee delayed this, and the VHIC project may be merged with an national project that comes out of Alvey's plans.

The project rivals the US Department of Defence's very high speed integrated circuit (VHSIC) programme - longer established and better funded than the Ministry of Defence scheme here.

VHSIC was set up in 1980, funded to the tune of \$210 million, and involves six major US semiconductor manufacturers as prime contractors for a series of projects.

It had been hoped at the start that British military scientists would be able to collaborate, setting up joint ventures with the US companies taking part in VHSIC work. But the US government decreed that no foreign countries,

not even fellow NATO members would be allowed to participate.

Fears of technology leakage on the programme leading out to the USSR were instrumental in this decision.

Being frozen out of the American development programme meant that to keep in touch with technology for advanced high speed, high density integrated circuits the British military establishment had to prepare to set up its own programme.

There has been close co-operation between the private companies active in the area and government departments like the Ministry of Defence, Department of Industry and the RSRE, in general agreement that a programme like VHIC is what the UK defence industry should be going after.

"There's no question," says director of GEC's Hirst Research Centre Derek Roberts. "A laboratory at RSRE is entirely consistent with what we have been pressing for."

Roberts also emphasises the importance of the project being high performance rather than high speed ICs. There is more performance than just raw die speed, he says. It takes in analysis of circuit performance, too.

He feels the US programme, defined in its terminology, is rather restricted.

"If you are setting about a search project like this, you don't want to restrict your aims at the start," adds Roberts.

The US VHSIC programme's first phase aims to develop chips that run at 25 MHz, with a functional throughput rate of 5 x 10 gates-Hz per square centimetre.

New micro venture to use Japanese portable

A NEW microcomputer venture set up by Reading-based electronics group Norbain Electronics will be based on a Japanese portable micro. The new company, Norbain Micro, will sell nationwide, and plans to build up software support and maintenance services for the Epson micro and the printers it will stock.

The Japanese Epson HX 20, from a company really only known for its dot matrix printers in this country, is a full function portable eight-bit machine. It comes with a four-line liquid crystal display and a 24-column dot matrix printer built in, and expansion options allow for external floppy discs, monitor and acoustic modem. User memory is expandable from the standard 12.5K to about 25K.

"We see the Epson products as a solid base on which to build the

company," says Norbain Micro managing director, John Norbain. "But that does not mean we are going to stop there. Other competing franchises will follow due course."

The market move towards portable microcomputers is reinforced by British manufacturers Transam. Sales director Graham Clifton sees 1983 as "the year of the portable", but rather than selling a portable machine to its own line of minicomputers, Transam is signing up as agents for various portable machines which it will sell from its London showroom. A portable computer centre will open there next week.

Machines to be carried started with the Epson HX 20 again, as well as handheld or briefcase micros from Sharp, Grundy, Hewlett-Packard and Teleram.

Oki suffers fire setback

A FIRE at Japanese semiconductor manufacturer Oki's Miyazaki plant has set back its 64K dynamic RAM production. The fire was in the ceiling of one of the wafer fabrication rooms, and equipment was damaged, mainly by the water used to put out the blaze.

The fire caused a temporary shutdown of the plant, which manufactures a range of ROM chips as well as the 64K dRAM, but most of the plant is running again and full production capacity is expected to be regained by next March.

The fire and attendant delays in Micro News is compiled by Robert Parry.

Oki's 64K production have given rivals in the cut-throat market scope for gloomy assessments of Oki's position - gloomy for Oki that is. Oki itself maintains that deliveries will only be slightly affected, though does fear that it could lose out on millions of dollars in business.

In the UK, the effect will be seen by a lengthening of lead times. Nigel Williams, of Oki's distributor Manhattan Skyline, says that they will stretch from six weeks to 16 weeks, pushing Oki in much the same position as other 64K suppliers he reckons.

Rank Xerox have been advertising their Local Network a lot lately.

Perhaps they read this booklet, first published by Datapoint 5 years ago.

Rank Xerox aren't alone in suddenly discovering the importance of the Local Network. A lot of other companies are scrambling hastily onto the bandwagon.

Datapoint welcomes the competition. It'll be good for business. Even though it's been a long time coming.

It was over 5 years ago that we launched the Datapoint Attached Resource Computer (ARCNET for short - and our own name for the Local Area Network). Since then we have been installing, supporting and enhancing ARCNET by adding more capabilities, making better use of resources and opening the network to other systems.

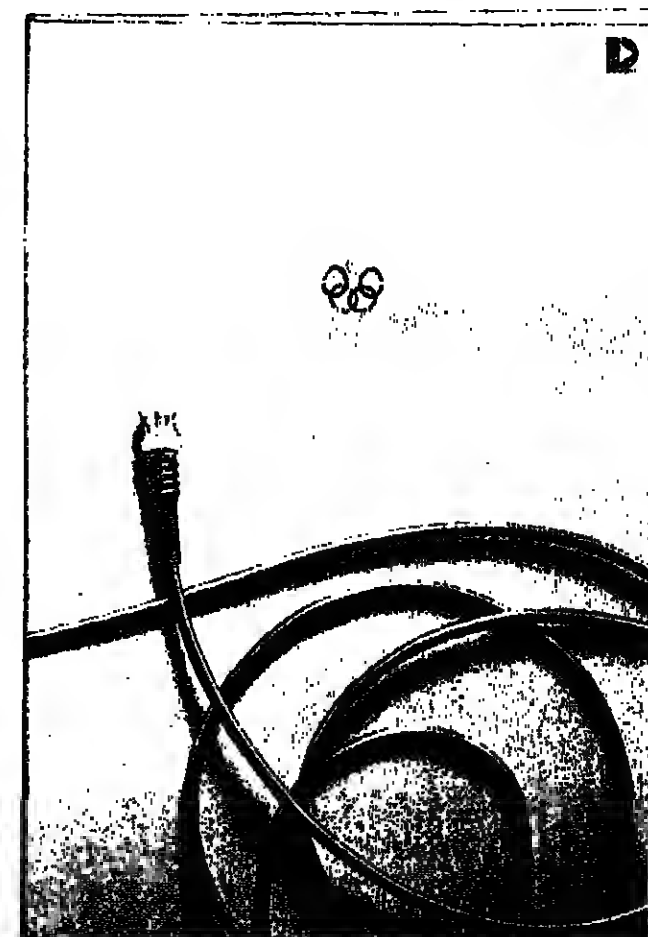
Today, while most of the information processing industry is marketing first generation networks and promising second generation capabilities, Datapoint has moved into the third and fourth generations, incorporating integrated voice and data

communications.

In fact, Datapoint is so far ahead of the competition that estimates put our share of the British market for Local Networks at between 70 and 80 per cent.

In round numbers, we now have 150 Local Networks, operating in the UK. That's more than all other Local Area Networks put together!

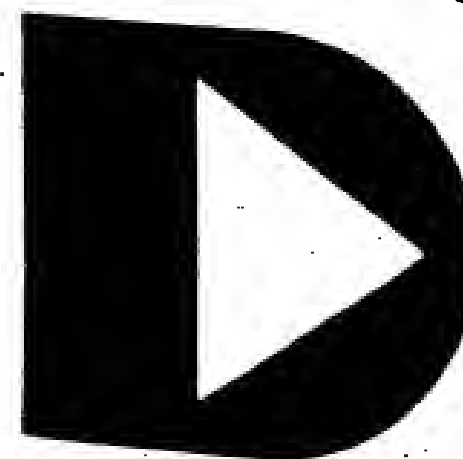
World-wide, it's the same story. But the figures are even more impressive: over 4,000 Datapoint Local Network installations. So we're not just number one in the UK, we're number one in Local Networks all over the world. And, whatever else our competitors tell you about themselves, they certainly can't say that!



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CW 10 25

CTL has found magic formula

FOR some companies, like Hemel Hempstead-based CTL, there is no recession. Announcing half-year figures last week, managing director Bob Finch revealed turnover 50% up on last year at £7 million, and profits in line with turnover.

The company closed its books for the first half of fiscal 1981/2 less than two weeks ago, but the fact that Finch could confirm there had been no change in the profit to turnover ratio clearly implies a net of close on £1 million.

For the whole of 1980/81 CTL, which is a subsidiary of the Information Technology group, produced turnover of £11.1 million and pre-tax profits of £1.3 million. Both profit and turnover last year were 28% up on the previous year, showing that CTL, mostly via its Momentum resilient system, has found the magic formula for accelerated growth, more familiar in US than in UK companies.

Finch, having noted that CTL was now clearly out-performing the industry as a whole in terms of growth, said he had every confidence that it would continue this rate of growth in the second half.

The company, said Finch, is now benefiting directly from a decision to double expenditure on sales and marketing over the past two years.

CTL has increased its return on capital, a measure of profit against investment, to 40%, one of the highest in the UK.

The successful maintenance of profit margins in the face of increased investment Finch attributes to "tight financial control, with profit centre responsibility pushed right down the management team."

CTL was set up in 1966 to manufacture transaction processing-oriented mini-computers, and has been profitable since 1974.

The company's principal pro-

duct, and its most successful entrant in the competitive 16-bit marketplace, is the Momentum series.

It is a range of microcomputers with an entry level price of £70,000, which is modular in concept and can be run on a non-stop basis.

This brings CTL into direct competition with US-based Tandem, which pioneered the marketing of non-stop systems and was one of the fastest growing companies in the US last year.

Growth at Tandem tailed off earlier this year, but CTL is still picking up the trend for non-stop systems in the UK, where the concept is only just beginning to spread beyond the banking sector.

According to Finch, CTL is in no immediate rush to go public on the Stock Exchange, although the company's performance makes it a logical candidate for a public share sale.

Figuring on another Apple

THE question from Sileena Valley is: Have we found another Apple?

This refers to venture start-up Convergent Technology, which has just revealed third quarter figures showing a turnover leap from \$1.8 million a year ago to \$29.6 million for the quarter ended September 30, 1982.

Income followed the sales climb by moving from a loss of \$592,000 to a profit of \$7.29 million for the third quarter.

Sales for the nine months were \$54.0 million compared with \$4.7 million for the first nine months of last year.

A start-up loss of \$1.09 million has been converted into a net profit of \$12.9 million for the first nine months of 1982.

Convergent makes a 16-bit workstation which it sells on an OEM basis only to such industry blue chip companies as Burroughs, NCR, Thompson CSF and TRW.

The company was founded in August 1979.



Taking their own medicine are John Goodve-Docker, managing director Patrick & Leach Microcomputers (left), with Roger Leach (right) Patrick, founders and joint managing directors of Patrick & Leach.

'Start-up' company moves into micro

by Robert Parry

MANAGEMENT services company Patrick & Leach, set up in August to help start-up businesses get going, has taken its own medicine and formed a separate microcomputer company.

Based on ICL Trader Point and Triumph Adler dealerships, Patrick & Leach Microcomputers is intended to be self-sufficient, operating as a general micro dealer for business applications. But it will also act as a service arm to the "company company" Patrick & Leach, and serve as a showcase for what it can offer in the way of establishing a small business.

"We are convinced that the use of modern management tools, especially the use of microcomputers and software, will be crucial to the success of the companies we help to set up," says Gil Patrick, with Roger Leach joint founder and managing director of Patrick & Leach.

Hence the former microcomputer service setting off into a separate Patrick & Leach Microcomputers under ex-Burroughs and Goodve-Docker.

"They put their money where their mouth is," says director Goodve-Docker.

"Though I see the as predominantly as a micro will also be a major example of the Patrick & Leach service."

Apart from a flower of retailing business enabled Gil Patrick in 1981 microcomputer service is the company's main venture to do has an electrical wholesaler under way - though taking a back seat to the company at the moment would like to be involved up other micro dealer country.

SHARES TABLE

The shares table, which is specially compiled for Computer Weekly, selected computer companies that reflect the state of the computer industry.

Date 2/21/82		Index 116.99									
Futures		London Block Exchange		Futures		S		US Fed			
1982		Block		Price		C' Origin		1982		Block	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
230	191	Act (Apr Cont (25p)		228		-	2	18		Amulpet	
192	153	BIG Int (15p)		188		-	20	21		Amulpet	
180	141	S. Bay Euro (25p)		188		-	20	21		Amulpet	
168	129	Chuan (10p)		188		-	20	21		Amulpet	
156	117	Colo Group (25p)		188		-	20	21		Amulpet	
144	105	De La Rue (10p)		188		-	20	21		Amulpet	
132	93	De La Rue (10p)		188		-	20	21		Amulpet	
120	81	De La Rue (10p)		188		-	20	21		Amulpet	
108	69	De La Rue (10p)		188		-	20	21		Amulpet	
96	57	De La Rue (10p)		188		-	20	21		Amulpet	
84	45	De La Rue (10p)		188		-	20	21		Amulpet	
72	33	De La Rue (10p)		188		-	20	21		Amulpet	
60	21	De La Rue (10p)		188		-	20	21		Amulpet	
48	9	De La Rue (10p)		188		-	20	21		Amulpet	
36	-1	De La Rue (10p)		188		-	20	21		Amulpet	
24	-13	De La Rue (10p)		188		-	20	21		Amulpet	
12	-25	De La Rue (10p)		188		-	20	21		Amulpet	
0	-37	De La Rue (10p)		188		-	20	21		Amulpet	
-12	-49	De La Rue (10p)		188		-	20	21		Amulpet	
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-36	-73	De La Rue (10p)		188		-	20	21		Amulpet	
-48	-85	De La Rue (10p)		188		-	20	21		Amulpet	
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-72	-109	De La Rue (10p)		188		-	20	21		Amulpet	
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-132	-169	De La Rue (10p)		188		-	20	21		Amulpet	
-144	-181	De La Rue (10p)		188		-	20	21		Amulpet	
-156	-193	De La Rue (10p)		188		-	20	21		Amulpet	
-168	-205	De La Rue (10p)		188		-	20	21		Amulpet	
-180	-217	De La Rue (10p)		188		-	20	21		Amulpet	
-192	-229	De La Rue (10p)		188		-	20	21		Amulpet	
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-216	-253	De La Rue (10p)		188		-	20	21		Amulpet	
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-240	-277	De La Rue (10p)		188		-	20	21		Amulpet	
-252	-289	De La Rue (10p)		188		-	20	21		Amulpet	
-264	-301	De La Rue (10p)		188		-	20	21		Amulpet	
-276	-313	De La Rue (10p)		188		-	20	21		Amulpet	
-288	-325	De La Rue (10p)		188		-	20	21		Amulpet	
-300	-337	De La Rue (10p)		188		-	20	21		Amulpet	
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-336	-373	De La Rue (10p)		188		-	20	21		Amulpet	
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-480	-517	De La Rue (10p)		188		-	20	21		Amulpet	
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PROFILE

What makes an editor move into the business

WHEN one of the best known journalists in the computer industry crosses the line and moves into the business, there has to be a good reason.

According to Peter Laurie, until recently Editor of Practical Computing, the reason was straightforward.

"After writing in books for 20 years, I could see an industry just like publishing, and I wanted to found a publishing house that would be around in 10, 20 maybe 200 years' time."

With the aid of a start-up loan provided by his employers on Practical Computing, IPC Business Press, Laurie set up a software company called Southdata Ltd.

The company began operations two years ago and has invested about 12 man years in producing a database manager and a series of programming tools for use with eight-bit micros.

Laurie left Practical Computing a little over a month ago to devote himself full-time to marketing the Southdata products, now field usable.

Most of the IPC loan was spent on developing the software and Laurie turned to Barclays Bank to provide the £75,000 needed to get the marketing operation on the road.

Laurie was offered the best loan package on the market, the Barclays start-up loan. He says he has to pay nothing back to the bank for five years or, if he sales take off fast enough, just a small royalty on turnover, calculated to give Barclays the equivalent of 12% over the full life of the loan.

Given that the packages, called Superfile, Superform and Superbase, are ready to run, Laurie has calculated first year revenues of £350,000 based on selling 1,000 packages at about £350 each.

Wondering if there might not be another Adam Osborne in the offing out in Chiswick, where Southdata is based in a converted warehouse, we asked Laurie how he had become interested in micros.

His cv showed him as Sunday Times colour supplement writer

prior to his Practical Computing involvement.

"I left the Sunday Times Colour Supplement, then I started to teach myself electronics. I wrote a book about how to teach yourself electronics to pay for what I was doing."

Laurie, who has involved his entire family in the Southdata project, added that he then wrote a book on the micro revolution for Futura, a publishing company. "Unfortunately, Futura published a book, also called the Micro Revolution, by Peter Large, of the Guardian, on the same day."

After the book came Practical Computing, which Laurie edited from scratch.

The magazine is one of the most successful in its field, selling 68,000 copies each month to what Laurie describes as "a very enthusiastic market."

Laurie notes that when Practical Computing started there was one other similar magazine on the bookshop shelves.

"Now there are 14" he wryly observes.

From his position on Practical

Computing Laurie admits that he got a unique view of the market, which led him to choose as his first product a micro database system for use on eight-bit multi-user machines.

He chose the Sheldon Signet because the manufacturer had the operating systems source code - vital if he was to easily debug and sort out problems on-site.

"In addition, the Signet is British, which we prefer to buy," Laurie says.

The database system is called Superfile. Laurie claims that it is easier to use and more flexible than any other package on the market.

Written in Z80 machine code the DBM can handle searches based on "sounds like", and is restricted in record size only by the capacity of the machine itself.

Was he worried about "Stock Horror Laurie Can't Deliver - It Won't Work" headlines?

Laurie laughed a knowing laugh and said that he had taken the first precaution against that happening - his product was fully tested before he launched it.

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So what more do we need? First of all from government we need recognition that to help pull through the leading edge of technology substantial investments in systems are needed before they can be benchmarked. The public sector could do this if government told them to, and might salvage some of their reputation.

Secondly, it must be right to fight against protectionism, which would make this country much poorer, but in international trade we must all play the same rules.

The BBC and the end of privileged single tendering are admirable and we must all be more competitive. But if we look at a National Vehicle Licensing Centre, can you imagine that in France or Japan or the US or Germany they would refuse to wait a year so that the competitive bidding could include an excellent new indigenous product which government itself had helped to nurture.

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PLATFORM



'Advanced example of a well-known British problem'

Extracts from ICL chairman Sir Christopher Laidlaw's speech to the British Computer Society's Jubilee Dinner.

A VERY bright young man who has toiled day and night and weekends at an idea he believes to be a winner does not necessarily fit readily into a corporate goal. Either the corporation does what he says, which means taking funds away from another bright young man, or it says no. So there tends in the UK to be a problem of management and of discipline in the old-fashioned sense.

Our business is an advanced example of a well known British problem - brilliant invention and innovation but much more difficulty in following through the competitive development and implementation under British management.

In the US the leading edge pull of massive defence and space programmes added to a large and homogeneous market have generated large research and development contracts, often single tender and of direct benefit to the industry.

In Japan the consensus strategy developed since the late Fifties, aided by large grants and their insurmountable non-tariff barriers has built a national industry with very advanced technology, and a home market share of over 90% in the public sector and nearly 60% in the private sector. What a basis for their onslaught on world markets.

Nearer home, France has announced plans to invest £11½ billion in the electronics sector, with 60% in computers, chips and what the French call bureauque or office systems. Not a bad demonstration of their determination to push the industry into a leading role in the world. But cleverer than that, they have not yet said how this large sum will be allocated. So the various departments in the public sector and what is left of the private sector will be vying with each other to demonstrate their need for leading edge systems, knowing that the money will be available for the most promising.

Here the scene is also not quite like that, and Alvey's £350 million over five years, however welcome,

pay. At present these inflexible funders are enormously capitalised. If you compare this with the agricultural sector, ratio is perhaps only one to 50.

We are no longer just a business of automating existing processes - we are entering a business of supporting the decision-making of management, every walk of life. I believe to be tremendously important. It is also very important that UK management's normal cautiousness in adopting new techniques does not put us at a competitive disadvantage in the world. Managers outside our industry have not terminated enough to know the techniques in order to defend their firm or their service.

What manager will dare go deciding by Guess and by Gut the back of an envelope, what competitor is using data support facilities from an up-to-date database? How long will last if he did, and how long will boss last if he denies him the best training and ad hoc intervention?

We have a large new task in education, both of the numbers of potential users of specialists to build systems. There are by now 10 large numbers of training on how computers and their ware work. There are by now remarkably few courses in this next development about information engineering.

But the profession of information engineer hardly exists. Urgent steps are needed to get into being. We must respect computer science courses in strong bias towards the universities and industry to get a sort of people we need.

We need to equip managers across the whole of the British economy to win against our best competitors.

It is equally obvious, to all but the most financially naive, that the cash assets of both the NEB and the NRDC will be realised for the benefit of the Treasury and not for British technology as they were intended.

Sir Frederick intimated - but failed to make plain - that he is going to wind up with whatever money he can cobble together after the sale of assets, but without any further capital from government or elsewhere. It also looks as if even the sale of assets is going to be open to Treasury raids and not necessarily at the disposal of the BTG.

So whether the BTG, minus any new capital, and maybe minus half the realised value of its assets?

If Sir Frederick has any ideas, he did not reveal them. He will soldier on attempting to get whatever he can out of a government which has shown itself determined to give Britain a real future in the information technology world - but equally determined not to pay for it.

The hard-pressed rate- and tax-payer may applaud this attitude, but to do so is to go one further step into cloud cuckoo land, where part of the government's strategy seems to be buried.

Our principal competitors, the Americans, are pumping over £3,000 billion a year of government money via the military into technology research.

The French have plans for £11.5 billion of investment over the next few years.

The Japanese will spend between £220 and £450 million over the next 10 years on their fifth generation project.

Meanwhile, back in the UK, a perfectly viable tool for the government to use as its investment channel is to be virtually castrated.

It is not just the chairman of the BTG who needs to know where he is going. We all need to know just how the government intends to proceed with its plans for the future financing of research and development.

A little of the Falklands determination applied to the future of technology investment might help a good deal more than eliminating the BTG's ability to operate by diverting it of funds while paying lip service to the idea it was originally intended to serve.

Those in socio-economic group A/B will no doubt have noticed in the Observer Colour Magazine, and sundry other meaningful publications, a series of ads from IBM.

It appears that we Brits still regard computers with awe and wonder, and that to prepare the way for the IBM Personal Computer, need demystification.

Thus we see in the advertisement Joe Public extolling the virtues of computers and how they have improved his lifestyle; to the extent of a rather twee four-page, full colour tableau depicting a large number of Joe (and Joanna) Publics doing just that.

We have in our possession one of the original drafts of this now legendary ad, rejected by Big Blue for some reason or other, and left duty-bound to reproduce it for our readers' enlightenment. The light it sheds on the current state of computers in society is encouraged us to let it all out over Downtime.

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ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, October 28, 1982

Outlook unsettled

WHEN the chairman starts expressing concern about where the organisation is going, then to say this spells trouble is something of an understatement.

Yet when Sir Frederick Wood recently presented the admirable results for the National Research and Development Corporation - now an integral part of the as yet legally non-existent British Technology Group - he expressed concern of varying sorts.

He acknowledged that he was facing the demand made during the summer by some MPs that the NRDC should lose its automatic rights under the 1949 Act to the patents from all inventions produced in government establishments.

He also expressed direct concern about moves to curb the BTG's ability to make equity investments in companies.

Lurking behind Sir Frederick's diplomatic presentation of an unsettled future is a very real possibility that the government intends to limit the British Technology Group that it will have little or no real role in financing technology in the future, on any significant scale.

Despite the failure of the government to indicate that the necessary legal measures will be taken to create the BTG and define its role, the merger of NRDC and National Enterprise Board staffs appears to have gone far more smoothly than anyone had a right to expect.

But without a clear definition of where to go from here, the strategic investment programme, which is, de facto, the key role of the BTG, is without a goal or a direction.

Both the constituent parts of the BTG, the NEB and the NRDC, have substantial liquid assets, and massive undrawn loan limits granted them by law.

The combined cash assets and loan limits available to the BTG come to well over £140 million, more than enough for even a restricted investment programme.

Sir Frederick's predecessors kept borrowings low. And it now seems that their apparent good housekeeping will help in the demise of the only clearly constituted investment arm the government has got - the BTG.

It is obvious that the loan limits fixed in the 1967 Act will now never be used.

It is equally obvious, to all but the most financially naive, that the cash assets of both the NEB and the NRDC will be realised for the benefit of the Treasury and not for British technology as they were intended.

Sir Frederick intimated - but failed to make plain - that he is going to wind up with whatever money he can cobble together after the sale of assets, but without any further capital from government or elsewhere. It also looks as if even the sale of assets is going to be open to Treasury raids and not necessarily at the disposal of the BTG.

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The French have plans for £11.5 billion of investment over the next few years.

The Japanese will spend between £220 and £450 million over the next 10 years on their fifth generation project.

Meanwhile, back in the UK, a perfectly viable tool for the government to use as its investment channel is to be virtually castrated.

It is not just the chairman of the BTG who needs to know where he is going. We all need to know just how the government intends to proceed with its plans for the future financing of research and development.

A little of the Falklands determination applied to the future of technology investment might help a good deal more than eliminating the BTG's ability to operate by diverting it of funds while paying lip service to the idea it was originally intended to serve.

Those in socio-economic group A/B will no doubt have noticed in the Observer Colour Magazine, and sundry other meaningful publications, a series of ads from IBM. It appears that we Brits still regard computers with awe and wonder, and that to prepare the way for the IBM Personal Computer, need demystification.

LETTERS

Why do human rights critics pick on S. Africa?

ALMOST two pages (CW, October 7) are devoted to an attack on trade with South Africa, putting the case that the sale of computers to that country helps to suppress human rights.

While I am sure the writers involved are sincere, one is bound to ask why South Africa is specially singled out for criticism. It is unfortunately the case that most of the other African states do not guarantee human rights as understood in this country. Most of them, unlike South Africa, have State-controlled press, radio and TV and nearly all have harsh discriminatory legislation against minority racial groups.

Most of your readers, I imagine, have met or worked with East African refugees who have been forced to leave their homelands purely because of their racial origins. Many African States, too, again unlike South Africa, practise racial and political murder on a vast scale, or are hopelessly corrupt.

Turning to other parts of the globe, we see the obvious lack of human rights in Eastern Europe, and there are many other States with which Britain enjoys a thriving trade which yet have very poor track records on human rights. In Sri Lanka, for instance, thousands of Tamils are being forcibly "repa-

triated" to India - a land which many have ever seen, in Malaysia the Chinese are discriminated against, and so on.

If exporting companies are restricted to selling their products only to those countries with a good reputation for "human rights" then we will find that we will have a very small export market.

There is another point to consider - does trade with nations whose internal politics we find distasteful help or hinder world peace? Is it not more likely that a prosperous South Africa offers more hope for advancement for the Bantu than a South Africa in decline? And should not trade with

South Africa be encouraged because of the greater contact with the outside world that this will bring?

Whatever resolutions are passed by the United Nations, in the last resort our government has to decide whether trade with any country is in our interests or not. South Africa poses no military threat to the United Kingdom, to Europe or to the US. On the contrary, she has been a valuable ally in the past, and on no account would we allow that country to follow Mozambique into the Russian sphere of influence.

R. J. SILBURN
Epsom, Surrey

Unfair to the bureaux

I TAKE exception to the facetious attitude implied by Chris Naylor's article (CW, September 30) about the way in which bureaux price the services they offer.

Bureaux, in a difficult and changing marketplace, are trying to develop a profitable business, and knowing the effort that goes into devising and implementing a fair charging system, the remarks in the article are unfair and unhelpful.

Bureaux, like any other business, operate in a marketplace with the normal market forces at work establishing price levels. They also have cost platform and a target level of profitability. It obviously makes good commercial sense to charge users for the services they actually use, in a manner that allows (i) the bureaux to meet profitability objectives; and (ii) the

customer to get value for money. With regard to the latter point, the best way to ensure value for money is to monitor at a detailed level what the customer uses and then charge him based on his actual usage of all the various elements that make up what is after all a complex process.

Any other method will tend to penalise either the efficient or the non-efficient user, or to hide what is actually being supplied for the money.

I am not sure if Chris Naylor had an alternative pricing mechanism in mind, but if he wants to run a bureau and revert to the simple £50 per hour charging approach that he referred to, I wish him luck!

LEON LISTER
RHM Computing
Harlow, Essex

'No experience, no job'

YOUR article on a rejig of the Tops scheme (CW, October 7) illustrates the need for greater education of employers to trainees' potential abilities.

The vicious circle of "no experience, no job" which exists is merely an excuse given by many to excuse them from having to consider a trainee to fill their vacancy. Further, training is tailored to represent "real work" as far as is practicable.

I am approaching the end of a 15-week course in RPGII which has required theoretical learning to be applied to case-study problems and also involves a five-week secondment to a user company. Any greater emphasis on "real" programming would not have left

time for the basics to be learnt. I also have a good education, a commercial background and I made a positive decision to enter the world of computer programming. However, my response from prospective employers has ranged from "Sorry but you've no experience" to the rudeness of not even bothering to reply.

Those with vacancies in their DP departments would do well to think again, and instead of employing an experienced programmer, give the opportunity to a trainee who can be moulded to the required standards.

Don't just knock Tops trainees, try us first.

A. JACKSON
Hayes, Middx

Don't put all the blame on media

FURTHER to my article on supplies and publishers (CW, July 22) you have published a letter by a representative of JMF (Letters, September 3).

Firstly, he states that a catalogue company such as my own is somewhat limited and is only a convenient form of purchasing for the smaller customer, and secondly, that a small order catalogue could not be comprehensive enough.

I fear that the main points of this article were missed. The sheer saving in time, shown by selecting the products from a catalogue rather than arranging appointments and seeing the individual representatives, can be enormous.

As far as technical queries and professional advice are concerned, fortunately for ourselves, modern technical advances have given us the telephone. Almost any technical inquiry can be answered immediately.

For example, my own company can usually muster up to 100 man-years of experience in the computer industry to answer and advise on customers' problems. This applies not just to the smaller computer sites either; we number among our customers a large proportion of household names.

As far as a full comprehensive catalogue is concerned, and the impossibility of incorporating magnetic media and various other compatibility bias, I am sure Mr. Patters will be extremely interested in reading, and inwardly digesting our new catalogue, which is in the later stages of compilation. I am arranging for a copy to be sent to him together with a full pack of Renliss.

On all the writer's other points I could not agree more. A great many companies now selling computer media have very little experience with these products, and have no idea how properly to identify and solve a customer's problems.

We find that over 90% of any problems which occur, and are blamed on the media, are not what they seem. They, in fact, turn out to be nothing to do with the media side and are usually an obscure or intermittent hardware, software or environmental problem. Unless the correct action is taken, the problem will remain.

On the last point, I fully agree that more meaningful articles on this often underrated part of the computer industry by the trade press, would definitely be of valuable long-term assistance to every computer site.

BRIAN D. PAYNE
Marketing director
DN Computer Services Ltd
Maothester

ROGER ALEXANDER
Manager, research section
Barclaycard
Northampton

WE are having great difficulty in finding a package to handle our company's export shipping documents, invoicing, stock recording and general accounting and hope that one of your readers can help us. The package must run on DEC equipment, preferably within VAX.

If anyone knows of such a package will please contact me.

P. ARMSTRONG-BROWN
Computer systems manager
Tate & Lyle International
Sugar Quay
Lower Thames St
London EC3R 6DQ

I confess it concerns me slightly that the DP industry can (presumably) afford room in its ranks for those, like Fletcher, who have sapped the imaginative and analytical powers of otherwise, doubtless, quite intelligent people. Only the owner of a calculator would think of using the wretched machine to check the assertion regarding fifth powers. Anyone else could see straight away that assertion is proved simply by writing down the fifth powers of the numbers 0 to 9. Cheating has nothing to do with it.

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Co-op for contractors

CONTRACTORS fed up with the agencies they work for can now join a computer people's co-operative. It will operate along similar lines to the agencies, charging client companies a fee, and paying a proportion of this to the contractor.

The difference is that the "agency cut" will be pooled, and the trade surplus shared out at the end of the year to each member of the co-operative according to the financial value of his contribution.

The co-operative is the idea of Ronald Soape of Chelmsford, Essex. So far about 20 mostly experienced contractors are interested in joining, but Soape is eagerly seeking new members.

These people cover a broad area of expertise, but mostly have between eight and 10 years of experience, Soape tells me. "Our original thinking was of a minimum five years' experience. But the most important thing is enthusiasm to get involved."

Soape believes the co-operative will appeal to companies by offering the services of a professional body which understands the job. Many agencies, he says, do not put the right person forward for contracts. "Sometimes I have been completely undersold to clients," he says, "working in a fairly junior capacity."

In a sense the contractor will be working under his own agency, says Soape. Apart from financial benefits, he expects that there will be an improvement in the quality of the jobs to be done. There will be less of the boring, repetitive work that is the parol of so many contractors, and more control over the kind of applications.

"Initially all the work will be on-site," says Soape, "but an increasing proportion will be in-house."

One possible direction of the co-operative is toward the forming of a more conventional type of software house.



Series 1 sideline fills open market

THERE are not many vacancies for Series 1 programmers and analysts, so what happened to the people who were laid off when Amba Software dropped the commercial applications side of its business?

One of them, Paul Denton, formed another company, Lizline,

also specialising in Series 1 applications. He was later joined by another ex-Amba man, Roy Stringer, whose peripatetic legs have now carried him off again to another Series 1 user.

After forming Lizline, Denton noticed yet another man away from Amba, Hoek Sloka now his right-

hand man.

According to Denton, Amba's decision to forsake commercial Series 1 applications left Lizline an open market. The first big contract was a label printing system.

Picture shows (L to R): Denton, trainee Mike Ceserari and Sloka.

Bookings conversion problems

LIKE most computer applications, the theory behind the booking software is simple. As with many applications, there is a niggling practical and political (with a small p) difficulty.

So Glen Bryn of Tickmaster found when in charge of converting software developed for theatres for use in UK theatres.

Many UK theatres have "private property seats", for which the theatre keeps all the proceeds while the "venue", or organisation producing the entertainment, doesn't get a farthing. In the UK the venue owns all the seats.

The private seats are usually best, says Bryn, and the software had to be rewritten to make sure they were the first to be filled. As much as 60% of the software had to be changed.

The Tickmaster system had already proved successful for five theatres of the Wyndham Theatre group. It runs from terminals linked to a central Data Equipment PDP-11, and each theatregoer to book tickets goes to the theatre from any box office.

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VDU operators have a glaring problem.

Polaroid CP-70
Contrast Enhancement Filter

Document 4464A. Now on Page 1 Line 30 Position 2

The text on this screen is sharper, clearer, and easier to read.

That's because there's a polarized filter on it. The Polaroid CP-70 Contrast Enhancement Filter for Visual Display Units. It increases contrast, and dramatically reduces glare. So it also helps to reduce eyestrain. Which, according to major health studies, is a problem affecting over 80% of all VDU operators.

When your operators don't strain their eyes, they become more alert. This helps reduce careless errors. And helps increase productivity.

Alternative solutions aren't so effective. Tinted glass, for instance, doesn't stop glare completely. Etched screens reduce sharpness and fail to improve contrast. And a massive office overhaul of lighting, walls, and windows causes unnecessary downtime. Besides costing a fortune.

Fortunately, Polaroid have come up with the clear answer.

Each year the number of people using Visual Display Units increases.

And, each year, so do the problems which VDU glare causes. Studies have shown that over 80% of operators suffer from eyestrain, which, in turn, leads to tiredness, careless errors and lower productivity. It also increases absenteeism.

However, Polaroid have found the answer. The CP-70 filter. As you would expect from a company of Polaroid's reputation, they haven't just reduced glare, they've eliminated it. The CP-70 filter comes in a range of sizes which fit easily onto every type of display terminal. And once one is fitted, it should never need changing.

Cave Tab have been appointed Main Distributors throughout Britain and Europe. So, along with Polaroid's superb product, you also get our exceptional back up.

We believe you should see the Polaroid CP-70 filter straightaway. Almost every company which has bought one

has discovered each great advantage that they have come back for more. Send in the coupon below or phone. We'll make sure you get full details without delay, or obligation.

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Packing an expert's brain into a system

HOW do you build an expert system? As usual not even the experts agree on that one.

But most would agree that an expert system is not a replacement for the expert but a kind of consultant, able to perform some of the more mechanical functions of the brain.

Most would also agree that the hardest part of expert system building is in knowledge engineering, the process of transferring the brain of an expert into a computer.

Where the expert system builders disagree is on how this should best be done. David Hawkins, who recently set up an expert systems division at Rasal Decca, aimed specifically at the oil industry, believes the problem lies in getting the experts to make specific statements on how to solve problems.

Experts use implicit communication, he says. And the way they solve their problems in the real world is not the same as the way they describe their solutions to the expert systems builder.

Hawkins believes part of the answer is to employ domain specialists, who understand the area of expertise being computerised. In Rasal's case, this means recruiting people from the oil industry.

This is fine if you are building just one kind of expert system, but impractical if you are in the business of developing expert systems for many applications. Systems Programming Ltd has polished the rule-based technique pioneered by Donald Michie, among others, at Edinburgh University.

The result is a package called Sage, which was announced in May 1982. So far nine Sage systems have been delivered or ordered, and SPL's Mike Barratt reports a phenomenal interest.

ICL, for one, is using Sage at its West Gorton, Manchester development centre for projects associated with the introduction of its DM/1 and Estril main-frame computers in 1984/85.

With such a wide range of potential applications for Sage, it is not surprising that unlike Rasal,



MICHELLE... pioneered the rule-based expert systems policy at SPL and wrapped up at Sage.

SPL does not believe in employing domain specialists. Instead it employs knowledge engineers who are typically ignorant of the application they are working on.

Theory is often fed on a lead, expedience, and this is no exception. "It is an advantage if an engineer knows nothing," says Barratt.

The theory is that sometimes an expert takes too much for granted - the implicit communication described by Hawkins of Rasal. The difference is that SPL believes that these implicit assumptions are best broken down by asking leading questions.

Only then, SPL believes, can a truly useful model be built. One application that SPL has completed is a political risk system developed for Shell as a demonstration of Sage's capacity.

Workplace is compiled by Philip Hunter and Andrew Thomas.

PUZZLER

THIS week you are given an isosceles triangle with a 16cm base and two 17cm sides. The problem is to find the base measurement of the

only other possible isosceles triangle which has two 17cm sides and the same area as the first one. See page 43 for solution.

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DEVELOPMENT AIDS

At the recent Cincom User Conference, Mike Borton, project manager of manufacturing company Ward & Goldstone, called the fourth generation language Mantis one of the most remarkable software products he had come across. The product, he said, had so "immediate, profound and lasting impact on all aspects of system development," that was pretty strong stuff, but it came from a man who

is not known by his colleagues for being free in his praise. Borton was followed on the programme by the project manager of the Strips Products Group at British Steel Corp, and he described similar experience with Mantis. While not wishing to get on any particular company's bandwagon, it seemed these user views deserved a wider audience. An article based on Borton's speech to the

Cincom User Conference follows.

Borton also evaluated a rival CICS applications program generator called UFO, which is less powerful but still very successful.

On the facing page Anthea Ballam reports on the experience of British Shipbuilders, which opted for UFO in preference to Mantis.

How Mantis was the answer to a user's prayers

MANTIS was purchased by the Ward & Goldstone group of companies in June 1981, to provide a prototyping/system design facility and improve the quality of communication between the system designer and the application programmer. This had been identified as the most obvious barrier to effective and efficient development.

A brief "learning curve" period was followed by the development of a pilot application system to evaluate Mantis facilities and performance characteristics.

The success of this initial project led to the use of Mantis in a variety of applications, and persuaded the company to adopt Mantis as its strategic online development system.

In the mid-Sixties Ward & Goldstone established a central data processing division, the activities of which were based around an IBM 360 Model 25. Currently, the division operates an eight Mbyte IBM 4341 model group 2 with both CKD (3340/44) and FBA (3370) DASD and (3420) tape units.

The system runs under VMSP which supports two complete DOS/VSE systems for production and testing. The division adopted VSAM/DFSMS as its standard access method and DBMS. Until recently PL/I was the sole development language, although a limited Cobol expertise was available.

The total staff is 28, including operations and data preparation, three analysts, five programmers and three technical support programmers. Two of the major operating divisions have a systems development manager who is responsible for all aspects of planning

and liaison with the central division.

The first applications handled basic book-keeping functions, and the early years of development followed a classical path for a medium scale batch installation of that era.

Four years ago, it was decided to embark on what was, for group data processing, the most ambitious project it had yet undertaken - the development of a comprehensive online production planning and control system. This development was to be based on the IBM application products CICS and Capos.

The early stages of this development proved very successful. But before long it became apparent that user acceptance was limited. The quality of screen presentation was such that users frequently found information confused and often difficult to apply in an operational environment.

The data processing division accepted that there would have to be major revisions to the systems if the project was to continue. This meant that substantial parts of CICS would have to be rewritten.

Each CICS module comprises 15 to 25 individual CICS transactions. At that time the data processing division had the capacity to provide a maximum of 60 new CICS transactions annually. Provided the entire resource of the division was committed to the one project, the re-development of CICS, would comfortably occupy the division for four to five years.

In addition to the miscellany of problems which beset the manufacturing development, the division wanted to provide a "front

end" order processing system, and was in fact under considerable pressure to do so. Such a project could quite easily absorb the entire output of DP for over 18 months. The initial CICS development was a re-specification of the "shop order release" module. This indicated that the whole project was likely to take much longer. The complexities inherent in a manufacturing application were causing major difficulties both at the level of specification and program development, as a result of which development was painfully slow.

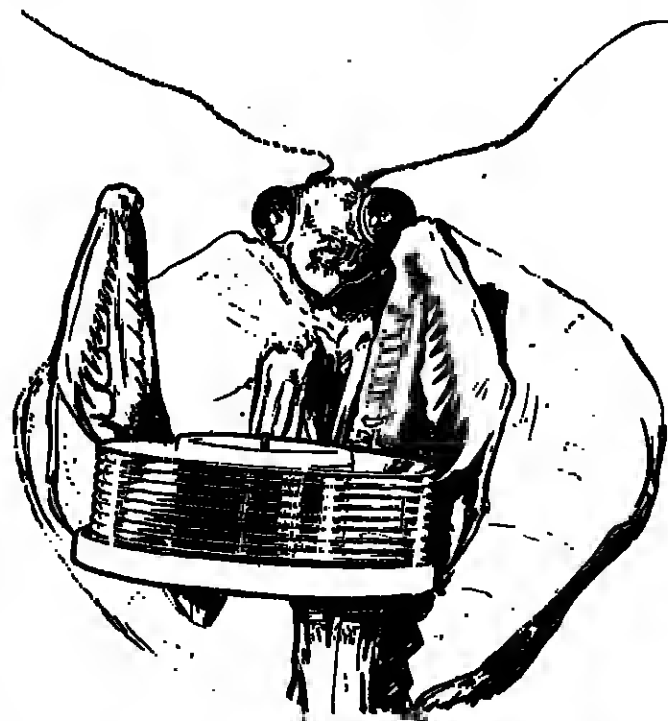
If the project was to be undertaken successfully within a reasonable time, the system designer and programming staff would have to understand each other much better.

One option would have been to increase the staff complement of the data processing division, but suitable people could not be found locally and this step would only have exacerbated the communication problem.

It was clear that a software solution had to be found.

The division embarked on a detailed appraisal of the available development software. CICS, SDF, CICS-DMS and 8100-DMS all came under scrutiny, the most successful of these being the 8100 version of Development Management System, which made a substantial contribution to the early stages of the project. It was, however, extremely inefficient and required an 8100 processor on which to run, which unfortunately, the division only had for a limited evaluation period.

It was thought that there should be more cost-effective solutions than using an 8100 processor for



Mantis introduced an entirely new philosophy to Ward & Goldstone.

prototyping mainframe systems. Nevertheless the 8100-DMS experience enabled the division to identify the facilities and functional characteristics of the "ideal" system. The division extended its researches to the non-IBM software market which among other products led to Cincom's Mantis.

Mantis had an immediate, profound and lasting impact on all aspects of system development at Ward & Goldstone, and caused the data processing division to revise its working methods fundamentally. Far from being just another piece of system and application software, Mantis provided the most comprehensive and flexible online application system, and introduced an entirely new philosophy which currently dominates thinking in the division. The benefits of using Mantis are legion.

The system is comprehensive. It provides facilities for screen and data structure design, and interfaces directly with the Total and DLI databases and VSAM data sets. Of particular importance is the structured procedural language which is the most powerful aspect of the system.

Mantis does not operate on the basis of parameter lists or a "fill in

the blanks" technique, but has a powerful procedural coding system with a concise syntax which commends it to development staff, and thereby provides a clear and acceptable migrational path.

The batch functions which play such a prominent role in conventional developments - compilation, map generation and linkage editing - are completely absent from Mantis, and this can reduce substantially the demand for what is frequently a very high resource-consuming function.

The sheer power and efficiency of Mantis code was the aspect of the system which had the most dramatic impact during the early days at Ward & Goldstone. Even though Mantis was only being used in a prototyping role, it was readily apparent that it did not suffer from the performance degradations of earlier systems such as CICS-DMS.

Furthermore, complex transactions were being successfully accommodated in far fewer lines of code than would be conceivable with PL/I or Cobol. Ratios of 10 lines of PL/I to one line of Mantis were being achieved and in fact this has come to be considered as the "base line".

Mantis successfully fulfilled the role of a system design facility and made massive reductions in the cycle time of design project. And due to its greatly enhanced speed of operation, Mantis enabled the analyst to maintain a close liaison with the user throughout the design stage. It also allowed the DP division to present to the user a range of alternative solutions and demonstrate these solutions in an apparently operational system - a facility which is barely conceivable in a conventional environment.

It only remained to determine whether Mantis performance characteristics could stand direct comparison with those of conventional high level languages, and the company would have at its disposal an efficient and sophisticated online development system. Benchmark tests were devised and performed using a variety of operational conditions. At minimum, there was no discernible difference in the performance of Mantis coded routine and the equivalent in PL/I or Cobol, and in many cases Mantis performed better.

The elimination of batch functions and the reduction in volume of code, coupled with the inherent ease of use of the system, had provided the quantum leap in productivity that the company had been seeking. The decision to give total commitment to Mantis as a strategic tool, however, came not as a result of calm rational discussion but because of crisis.

The order processing system, which by now was in its third month of development, was already three months behind schedule and a review of the entire project showed that there was no chance of maintaining the existing schedules if the project continued along conventional lines. The full system had already been specified so the application of Mantis would be a superb test of its ability to reduce development times, in a "real" project environment.

Using Mantis the project was back on its original schedule within two months with only 5% of the personnel initially allocated to the project.

The impact of Mantis on manufacturing development has been similarly dramatic. DP is now in the process of delivering several of the re-written CICS modules to the user divisions, ensuring that the level of acceptance is now higher due to the substantial input from the users and the close continuous liaison which has been made possible. The entire development thus far has only required the full-time commitment of one analyst and a senior programmer, with minimal support from an additional programmer.

Whatever criteria are selected for the evaluation of Mantis, the results are always extraordinary and often quite staggering. An example is one of the early benchmark marks which was carried out at Ward & Goldstone. The CICS bill of material processor has a

indented explosion facility which enables a product to be exploded down through all the levels of assembly to its raw materials, showing the level by level relationships of each constituent item. In addition to the CICS Cobol coded version, the division had its own PL/I equivalent.

The CICS program was 1.8 lines of code and the PL/I version 1080. Both these programs used a view of the database which contained 19 program communication blocks (PCBs) - a total user equivalent a PCB to a reference variable. By any standards the programming was extremely "involved".

A Mantis version of this transaction was prepared, originally for performance evaluation. At that time Mantis did not have a direct interface to DLI and an interface of some 280 lines of PL/I had to be prepared. The Mantis code comprised a mere 76 lines.

A further advantage arose from the fact that the interface program required only a single PCB. The advent of the DLI interface meant that the PL/I I/O routine could be replaced with native Mantis code, which was duly done with 24 lines of PL/I were replaced with 24 lines of Mantis. So CICS (Cobol) required 1,200 lines or 19 PCBs, while Mantis needed only 10 lines, or one PCB.

There was no measurable difference in performance between any of the three programs.

Results like these are also available at system level. Recently, DP was faced with the problem of having to re-sequence the delivery of revised CICS modules. Inventory accounting was required by a major user division several months earlier than had originally been scheduled and several new facilities were requested.

The development and installation of the complete suite took five weeks. The new facilities included online valuation (at standard and actual), letting, where used and single level explosion enquiries, and extended online audit and search facilities required an additional three weeks effort.

The system represented the equivalent of 22 CICS transactions and by conventional standards would have called for one third of the division's annual capacity. Instead, it required less than 2% and created little or no disruption to the overall project schedule.

DEVELOPMENT AIDS

UFO helps ship building to keep afloat

BRITISH Shipbuilders is beginning to enjoy a high level of success, despite the adverse economic climate and strong competition from overseas.

At first, the computer facility reflected the development of its parent - starting out as a jumble of individual systems that quickly merged into a cohesive and highly productive service organisation. Since 1981 the political climate has changed dramatically. British Shipbuilders found itself playing a key part in a military action that would have seemed quite unbelievable last year.

The system which was selected on the basis of its productivity has proved to be a thoroughly useful software facility enabling the hard pressed data processing department to cut corners.

The dispersal of the main ship assembly companies - in the North-east, Clydeside, the North-west and Scotland - is historical, and reflecting this, the main computing facilities are located in Newcastle upon Tyne and Govan, on the outskirts of Glasgow.

Tyne's regional centre is based on a 16-Mbyte IBM 3033, while Govan uses a 3032. The two facilities are linked. The users are as widely spread as British Shipbuilders itself; they use online terminals located throughout all the ship building, ship repair and engine building concerns. The corporation has about 70,000 employees in all.

The computer facility plays an essential part within this vast corporation. Its role is not merely concerned with the efficient handling of paperwork, but the establishment and maintenance of an automated facility that will make British Shipbuilders competitive within the world market.

Fred Beattie, systems architecture manager at British Shipbuilders, is well aware of the world industrial climate in this sector. "Japan was computerised 15 to 20 years ago, and understandably there is now a lot of pressure on us in terms of having to compete in the world market," he says.

"That's starting to come good and we have been getting a lot of orders lately. With this surge of activity the computer services division must get things right, and on time. We have many areas of activity."

Just over a year ago, following some upgrades and alterations to configurations to bring about to systems conformity, Beattie started to look at the performance of CICS in the context of materials production software.

"CICS first came out into the open around 1970, and it was then described by IBM as an overall manufacturing production system," says Beattie. "It took in purchasing systems and planning systems, inventory management, production costing, plant monitoring and control and all that."

When IBM announced its availability in 1979, CICS was able to address a number of areas, like bill of materials and inventory accounting, but we found in our complete package as a basic system framework to build on."

British Shipbuilders goods are never production line items - each is unique, whether it is a crude oil tanker, cargo ship or tug. Early in 1981 Beattie found him-

self trying to respond to his users' requirements with marginal timescales for complex systems implementation. Concerned about applying CICS in the establishment of materials and production systems software, he selected a screen application generator to see if it could reduce the all important time factor when realising applications systems.

"We started to look for something for screen applications programs," explains Beattie. "Until then we had been rewriting our own software in native CICS, and it was taking up three weeks to handle any one program. As for screen update/enquiries we were having to rewrite 20 to 25 programs per application, and as you can imagine, it was taking a lot of development time."

So in spring 1981 Beattie reckoned that the time was right to sort out the problem of implementing new applications software within a realistic timescale. He and his team went in search of a development facility and decided that the two systems appropriate to his company's requirements were UFO (User Files On-Line) and Cincom's Mantis. Beattie did not want to present users with an entirely new series of transaction codes, so UFO was chosen for its ability to integrate with CICS applications and for its price.

He first put this idea to the test in July last year on a pilot scheme, which involved the duplication of a project management system run on a Hewlett Packard 1000.

"We did a detailed evaluation and tested it in a number of ways," says Beattie. "With the existing system of the HP mini we took the file structure, reorganised them using UFO and produced a parts file, stores file, invoicing system and some other applications. It took one man three and a half weeks. He had never seen the product before, he simply learned as he went along."

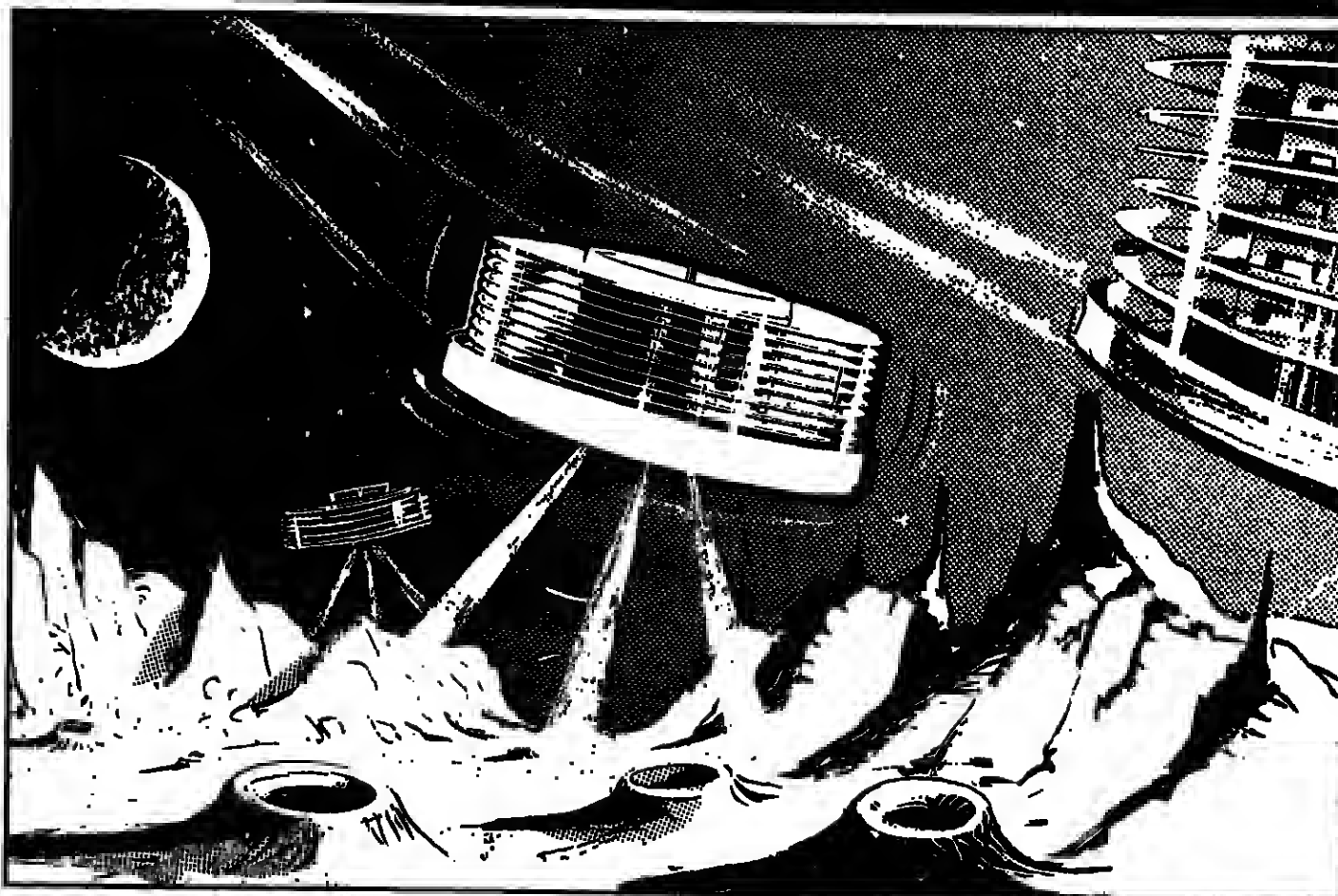
Following completion of this test, British Shipbuilders has used the data set and management facility in a range of applications areas, rapidly designing and implementing programs.

"It takes one day to train the average programmer or analyst in the basic techniques of the new system," explains Beattie. "From then on those people can write applications, screen enquiries, and the production programs. It's a quick learning cycle."

Throughout of new software can be effectively speeded up. Some three or four major applications can be worked on simultaneously, with target dates for completion between three and six months. At the same time Beattie knows that from a user's point of view UFO-produced transactions cannot be differentiated in any way from traditionally written CICS transactions - existing menu panels continue to operate unchanged.

It is well known that Japanese shipbuilders pride themselves on the extent and detail of project management planning prior to manufacture, a principle that involves extensive use of data processing facilities.

In the UK this pattern is also being adopted. Beattie and his colleagues are introducing software development tools to accommodate this trend.



Appearance of UFO meant that system developers of British Shipbuilders did not have to contend with alien methods of working.

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Britain's most successful series of exhibitions for computer systems, peripherals and software is going to Wales. Echoing the success of Compec in London, it follows Compec North in Manchester and Compec Scotland in Glasgow, as professional computer shows offering a highly defined geographical market.

COMPEC WALES In Cardiff between March 22-24, 1983 will allow companies selling into this important market to focus on computer users throughout this part of Wales and the West Country.

Surveys of visitors to computer exhibitions demonstrate that users prefer to attend a show which is local to them. Compec North, for the second time, and Compec Scotland were enthusiastically welcomed in 1982, and both events are being expanded for next year.

COMPEC WALES with a superb venue in the centre of Cardiff ensures the continuing success of these major computer events.

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PRODUCTS

Programming of logic devices made simpler

MICROSYSTEM Services has launched a system developed by Data I/O to simplify the programming of programmable logic devices. Called the Programmable Logic Development System (PLDS), it comprises a LogicPak that will plug directly into existing Data I/O PROM programmers, a range of programming test adaptors, one for each manufacturer's family of logic devices, and high-level software which allows data to be input in Boolean equation form.

During development of the PLDS, Data I/O worked closely with semiconductor manufacturers, and has written approval for the PLDS from each manufacturer — including AMD, Harris MMI, National Signetics and Texas Instruments. Over 60 devices including PALs, FPLAs and FPGAs are supported.

Operation of the PLDS to program a logic device is simple, says Microsystem Services. Having first developed the logic design, the PLDS software is used to generate the fuse table corresponding to that design. Once the fuse table is loaded into the programmer memory the logic device can be programmed.

Programming requires the appropriate adapter to be selected, a four-digit code entered (family and pinout codes) from the keyboard and the start button pressed. Once the device has been programmed, the LogicPak automatically tests it.

Automatic tests carried out on programmed devices include a full check of the memory array, a new logic fingerprint test and an optional structured test, developed by Data I/O, to 100% test certain specific input states. The fingerprint test provides a pseudo-random sequence of inputs to be applied to a device and a test sum is derived from the device outputs.

Once a device has been programmed and guaranteed working in a circuit, the test sum forms a standard against which all other devices can be checked. A standard logic fingerprint test takes about three seconds and can, therefore, be used on the production line without significantly hindering throughput.

Until now companies wishing to use programmable logic devices often had to convert the original design, which may have been in the form of truth tables, state tables, Boolean equations or flowcharts,

into a strictly formatted fuse table using manual methods. This was both confusing and time consuming. It was also easy to make an error when defining the fuses or when converting to programming data.

The different design adapter packs each contain the appropriate high-level software package for different manufacturers' devices. For example, the PALASM package accepts Boolean equations and generates fuse tables for PAL devices.

The Signetics H & L package uses truth tables to generate fuse tables for Signetics LPL devices. Since all programming in software selected, new logic devices developed can be accommodated. Data I/O has agreed to support all new devices that enter the market.

The PLDS system will operate with the System 17 with remote control, System 19, Model 29A Programmer, or the Model 100A Production Programmer. The Model 200A Data Control Unit can be used for storing the programming data on disc.

Microsystem Services (CW), Duke Street, High Wycombe, Bucks. Tel: (0494) 41661.

Sequential events recorder

MODERN power generation and industrial process plants require that a wide range of system parameters be continuously monitored and displayed. A permanent record of the system's operation must be maintained especially during critical periods of process malfunction or shutdown. The information required is essential for efficient process or plant re-start and repairs or maintenance of equipment.

It is to meet these and future requirements that the Ronan Series X500 Sequential Events Recorder (SER) has been designed. The multi-microprocessor based contact status acquisition system allows the sequence of event occurrence, both alarms and return to normal, to be displayed and recorded with a resolution of one millisecond. The critical plant parameters are monitored by transducers with contact outputs located at considerable distance from the control room area.

Costly cabling requirements from these remote areas may be



Ronan Series X500 Sequential Events Recorder.

avoided by acquiring the contact status information from a network of remote multiplexers, each connected to the central control unit

(CGU) by a serial data cable. Ronan Engineering (CW), 212000 Oxford Street, Woodland Hills, California 91367.

T-switch saves the cost of extra peripherals

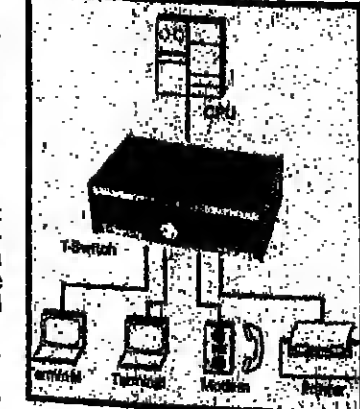
FAILURE to use equipment to its fullest extent is a waste of money. The new T-switches from Immac enable systems to share facilities — for example two computers can share one printer putting it to full-time use instead of having the expense of two partly used printers.

Basically, the T-switch connects directly to the computer I/O port using the standard RS232C interface cable. Various peripherals such as VDUs, printers, modems, etc. can then be plugged directly into the T-switch thus allowing a single port to control from two to six separate peripherals without resorting to disconnecting and re-connection of peripheral cables — a practice which can easily cause damage to connector pins and interfaces.

A selector knob on the front panel allows the appropriate peripheral to be selected without removing leads or re-wiring. It can

be located wherever convenient and is quick and easy to install, according to Immac.

Immac (UK) (CW), 18 Goddard Road, Astmoor Industrial Estate, Runcorn, Cheshire WA7 1 QFO. Tel: (09285) 67551.



Immac's T-Switch.

Z80 floppy controller

A Z80 floppy disc controller card, available mail order from Electronic Hobbies, is priced at from £270 plus P&P at £1.75. VAT must be added to both the card and P&P.

The card is of the standard Eurocard size (100 x 160 mm) and has DIN 41612 indirect edge connector. It is CP/M compatible with extensive use of ID connectors reducing system implementation time and it includes LS1, VL51 and memory devices mounted on IC sockets. The card has a full automatic daisy chain priority for interrupt and direct memory access functions. It is fully compatible with other cards in the series, as part of an extensive Z80 Eurocard microcomputer system.

It supports up to four eight-inch or three 5.25-inch drives. Electronic Hobbies (CW), 17 Roxwell Road, Chelmsford, Essex CM1 2LY. Tel: (0245) 62149.

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COMMUNITY OF THE FUTURE

Technology tops the bill at a new Disney World site... Donald Kennett reports

Disney gives showbiz treatment to computers

LAST week it was the computer's turn to get the Walt Disney showbiz treatment.

Epcot Centre, the latest addition to the 28,000-acre Disney World site in Florida, is even more dependent than its predecessors on computers. Besides which, Disney management had already found that the amount of interest shown in its computer systems made it inappropriate to keep them tucked away out of sight.

Walt Disney himself, who died in 1966, had planned an "experimental prototype community of tomorrow". Epcot, in which a variety of advanced technologies would be tested for their ability to solve problems in the outside world.

Buying a site that is twice the size of Manhattan Island has given his organisation the scope to expand at its own pace and to avoid being overshadowed by other businesses springing up on its doorstep in response to the



pulling power of Disney entertainment, as happened with the original California-based Disneyland.

The site is organised as little towns scattered among the countless lakes that characterise the Florida landscape. They are linked by a network of roads and two monorail loops. The first, which opened 11 years ago, were the three hotels capable of sleeping a total of 16,000 and the fairground modelled on the original Disneyland.

Epcot Centre adds a sort of permanent world's fair, with pavilions sponsored by a number of countries and companies. The nine countries, including the UK, China and Japan, are illustrated by mock-ups of their traditional architecture and shops selling goods such as tea and china in the case of the UK. The UK scene also includes a pub called the Rose and Crown and a canal lock.

The six US companies sponsoring pavilions are expected

to put in a total of \$300 million over the next 10 years, making for an unusual relationship with the companies such as Sperry Univac and American Telephone & Telegraph for which Disney is also a customer.

The computer room housing the Sperry 1100/60 at the heart of the Disney management system is used as the backdrop for a showbiz presentation on how friendly, clever and important computers are.

The presentation - complete with song and dance routine - uses the video image of a supposedly Cuckoo character called Earlie the Pearly projected into the room so that he appears to dance on top of the equipment. How it is done is kept secret.

The usefulness of computers is also illustrated by four computer games played on touch-screen terminals in the display area. The games symbolise the involvement of computers in industry rather than teaching anything about how they are used or how they work. In the factory game, for example, the player points to components of the American flag to feed them to an assembly line.

To appreciate the significance of computer-aided design another game invites you to design the layout of a roller coaster and then simulates a ride on it.

Disney World's aim is always to entertain and arouse interest rather than to inform in any kind of detail. Finance vice-president Mike Bagnell said that discussions with companies about participating in Epcot Centre stressed that they should be willing to respond to enquiries from the public that were stimulated by the show. They had to believe in the Epcot idea and be prepared to put in large sums of money, he said.

As well as benefiting from the publicity value of sponsoring Epcot's computer pavilion, Sperry plans to use the centre for management seminars and meetings with users and prospective customers. This is largely because it is not involved with consumer markets as are the sponsors of the other pavilions - General Motors on transportation, Exxon on energy, AT&T on communication, Kodak on visual imaging and Kraft on agriculture.

Sperry won the contract to supply Disney's mainframes shortly after the Florida site opened in 1971. Disney had just developed a whole load of applications for its expanded empire on RCA Spectras when RCA announced its intention to withdraw from the market. A team

of 150 programmers was assembled to transfer the software to Sperry Univac machines and much of it is still running.

Disney's early applications were accounting, management information and reservations, centred on its head office in California. The Florida site has added extensive networks of terminals, sensors and actuators of various kinds, with distributed minis and micro acting as controllers and concentrators.

The traffic generated in Florida is overtaking that in the California operations and, as the older Univac 90/80 machines in California are phased out, operations will be transferred to the 1100/60 that was installed in Florida last year.

"We felt that communications was going to be the key to the

whole thing," said Bagnell, "so we founded our own telephone company in partnership with United Telephone." It has also set up electricity, gas and water companies.

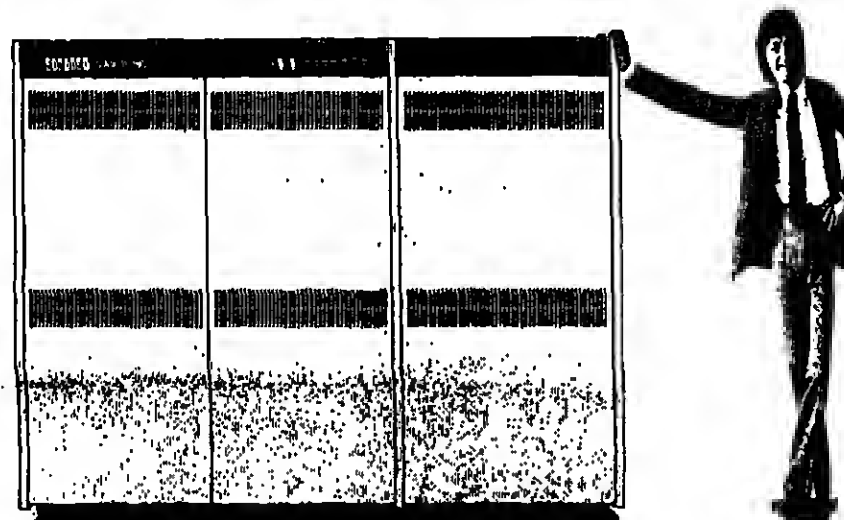
Scientific systems manager Lou Kompare claims that the Disney telephone company, Vista United Communications, was the first commercial telephone company to use optical fibre cable in revenue-generating service. That was three-and-a-half years ago in trunk routes on the site.

Since then it has used optical fibre links for its World Key site information system, which combines video, audio and data transmission to feed clusters of touch-screen terminals in five places around Epcot Centre.

■ Turn to page 23



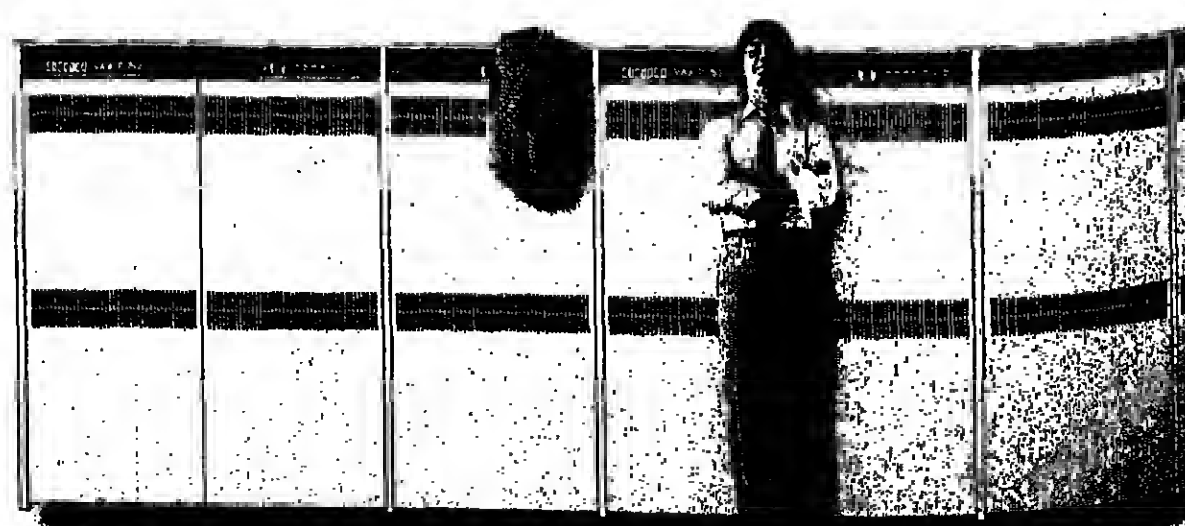
The engaging SMRT-1 robot, strikes up a conversation with Jimmie Alicia, the first guest to visit Sperry Univac's data processing exhibit at Epcot.



The VAX 11/780 minicomputer set the industry standard.

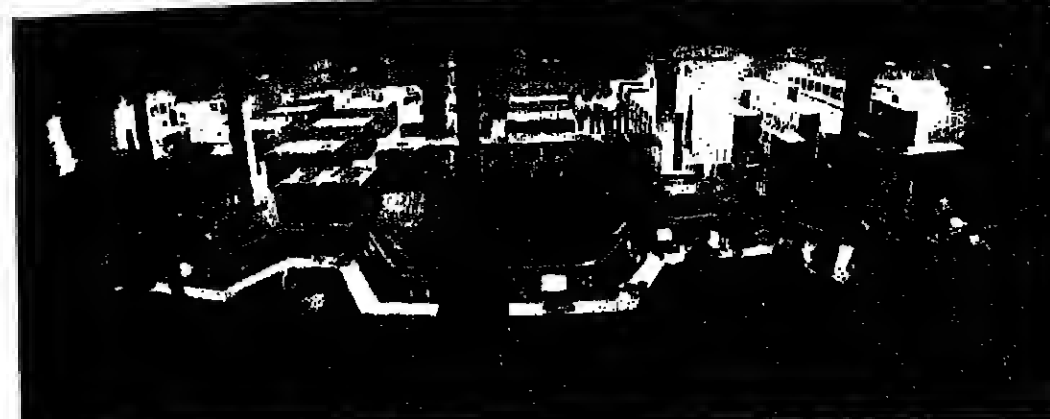
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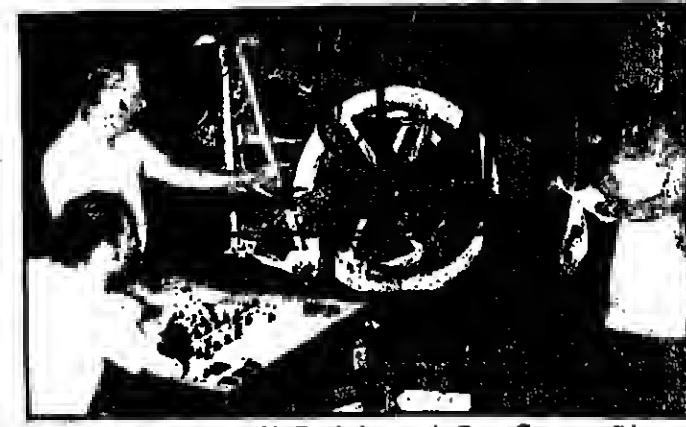


The VAX 11/782 gives twice the power for only 40% extra cost.

COMMUNITY OF THE FUTURE



Sperry Univac computers play a starring role in the "Autumn Computer Review" at the Epcot Centre.



A scene from the Spaceship Earth show at the Epcot Centre, as Disney engineers program the animation in the pre-computer press room.



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Everything that moves is controlled by micros

■ From page 22

Eventually it plans to use optical fibre for all links on the site. This is not for the reasons used in any of the glamorous arguments for futuristic interactive cable television networks being heard in the UK currently, but for protection against electrical interference and lightning. Florida has the highest incidence of lightning in the US and it causes several breakdowns a year.

Optical fibre cable is already installed all over the site ready for the completion of development work on a three-state signalling system that will enable network control to tell the difference between a line fault and a terminal or sensor fault. Meanwhile it uses duplicate circuits based on the methods it has previously used.

The company has already developed its own transmission protocols to give error recovery on high-speed 112 Kbit-per-second links where there would not be time for re-transmission.

Disney has a policy of using conservative techniques where

they suit the application, as well as developing new methods for improved results. It also wants to make successful developments available to outsiders. The World Key information system, for example, was a joint development with Bell Labs.

The intention is to turn it into a commercial system applicable to airports and other public places, but at present it is regarded as experimental. It combines images held on video disc with updatable text and animated graphics from a computer to present a wide range of information on the site and its exhibits to visitors.

The innovative systems side of the Epcot exercise is as yet a minor part hidden pretty much in the background. The hallmark of the Disney approach is the way the exhibits are presented. The site abounds with different types of vehicle to take visitors around both indoors and out.

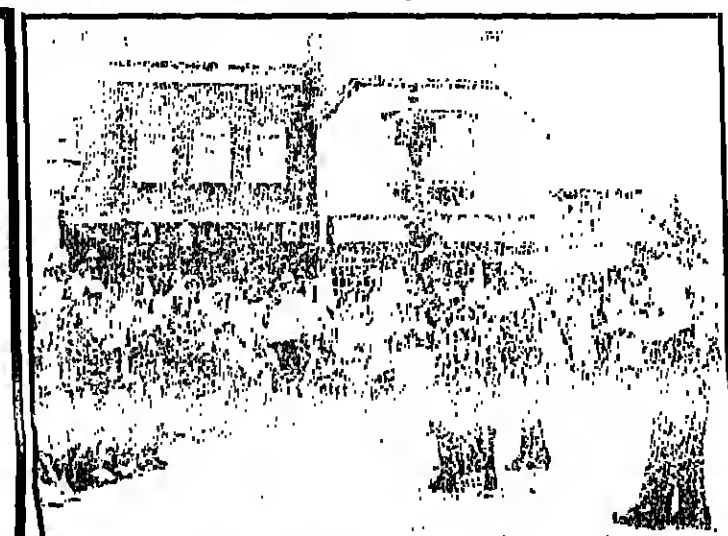
The indoor ones are basically like a fairground ghost tunnel and they take you past life-size animated puppet-like characters set in scenes that make simple

points in a jockey way, accompanied by commentaries and theme songs such as "It's fun to be free" for transportation and "taking memories" for photography.

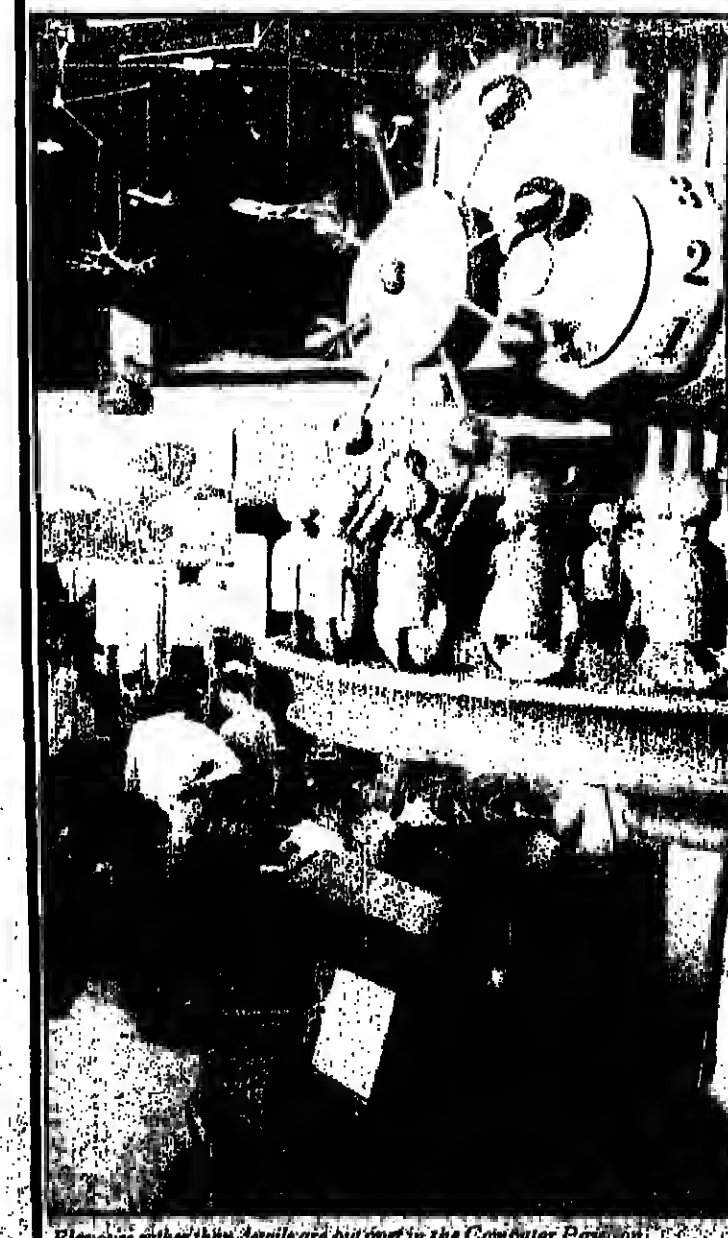
All the moving systems are controlled by microprocessor, so the movements can be altered, and all are monitored through a hierarchy of programmable devices from Zilog Z80s and Intel 8085s through Data General Novas, Digital Equipment PDP-11s and Univac V77s, all linked into the mainframe based reporting systems.

There are similar hierarchies for power distribution, chilled and hot water systems, smoke detectors and sprinklers, attendance monitors and sound and video distribution, as well as the point-of-sale terminals in restaurants and shops.

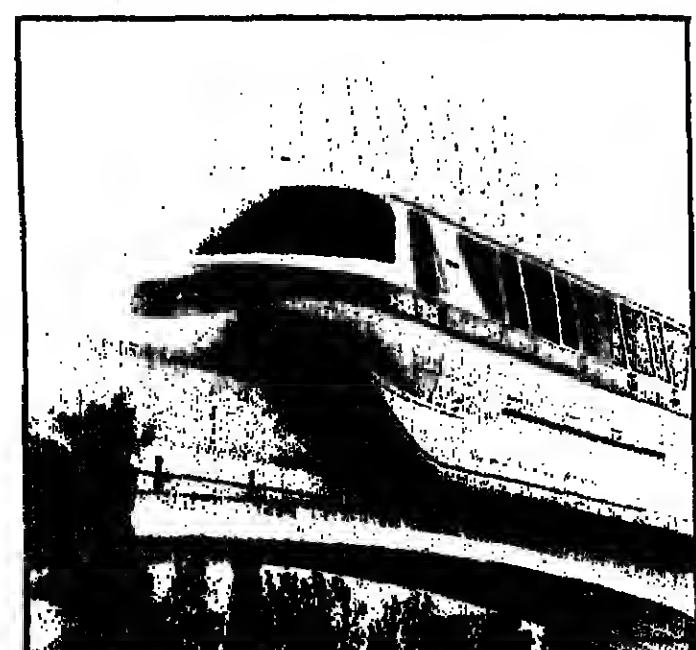
In the future Disney hopes to attract more participants and sponsors, both countries and companies, to spread the 12 million a year visitors a bit thinner, and shorten the queues - and keep the visitors coming back.



It may look like London or Stratford, but this is the scene in front of the Rose and Crown pub at the Epcot Centre.



Flavours rather than details are put over in the Computer Pavilion.



Monorails circle the pavilions of Disney's Future World.

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Atari produces and markets highly innovative software for use with the Atari 400 and Atari 800 home computers and video games consoles. To keep our leadership it is vital for Atari to monitor developments in this volatile market. We therefore need a micro enthusiast and software specialist to evaluate competitive software and hardware capability.

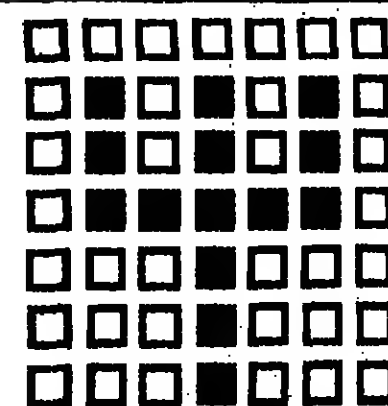
The ideal candidate will be aged about 25 with a good presence and speaking voice. He or she will have an extensive knowledge of the micro computer/home computer software market and be capable of explaining complex technical points in plain English to non technical and legal people.

We will pay a good negotiable salary plus company car and an attractive range of fringe benefits. If you enjoy the challenge of working in a fast moving and stimulating environment and match our specifications, write today with full personal and career details to:



David Konrath, Atari International (UK) Inc.,
Atari House, Railway Terrace, Slough, Berkshire.

(1489)



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Our client is a leading software house specialising in the marine and re-insurance field utilising Hewlett Packard computer systems. Due to the increasing demand for their services they now require an experienced Project Leader to work at either their C. London or South Bucks. offices.

Applicants must have a solid D.P. background with a strong analysis bias and preferably include experience of insurance systems. Any knowledge of the HP 250/3000 range will also be advantageous. The successful candidate can expect a high degree of client contact and must therefore be an effective communicator at all levels.

In return our client offers an excellent starting salary and package which includes an annual bonus, flexible, pleasant working conditions, and company car scheme. If you are self-motivated and looking for a challenge in a rapidly expanding environment call Mike Harmer for further details.

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Immediate requirements are for strong systems personnel up to Senior Analyst level with application experience in the above areas, preferably with an early COBOL programming background.

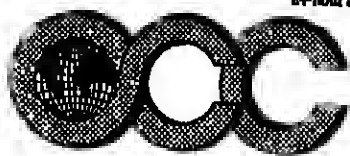
Here is an opportunity not to be missed and you should telephone now to discuss your interest but please send in a CV if you have a relevant background and are unable to phone.

Early meetings can be arranged with a view to completion during November.

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ComputerWeekly

TOPJOBS

Announcing a new prestigious section for senior level computer appointments

Computer Weekly has introduced a new feature into the appointments section of the newspaper to accommodate senior level appointments with a basic minimum salary of £14K. The new section is headed "Top Jobs".

Computer Weekly carries a large volume of appointment pages every week. Now a special section for senior appointments will enable readers to locate suitable job opportunities more conveniently. At the same time, this new facility will provide advertisers with the option of securing a premier position without extra cost.

One of the special but important features of this new section is that only those jobs offering a basic minimum salary of £14K will be eligible for inclusion in "Top Jobs". This restriction will add considerable prestige to the section and the positions advertised.

Computer Weekly provides the most comprehensive news coverage of computer users and the computer industry. Surveys have shown the newspaper to be the most widely read computer publication in Britain. With a circulation of over *100,000 every week - 32% at senior/managerial level - Computer Weekly is your best choice for all computer vacancies, as well as those important Top Jobs.

Because of the strict salary level restrictions we are enforcing, and the subsequent advanced production arrangements necessary, all space reservations for the "Top Jobs" section must be received in London by 4 p.m. Friday before publication date.

To reserve space please phone Shobhan Gajjar (Direct Clients) or Julie McNally (Consultancies) on (01) 661 0121.

* Circulation ABC January-June 1982 - 100,263

ComputerWeekly

Classified Department, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

PROGRAMMER/ANALYST
(CONTRACT FOR ONE YEAR)

The Press Association news agency, which provides a news and information service, requires the services of a self-employed Programmer/Analyst for an initial contract period of one year. The function of the task will be to re-write existing and develop new programmes for use on a DEC PDP installation using MACRO and RT11.

The successful applicant will have had at least three years' experience in this field and preference will be given to those who also have experience of typesetting, telecommunications and message switching.

The contract will be reviewed after nine months with a view to possible extension. A fee of £11,000 is offered for the year, payable in twelve monthly instalments. Other terms will be subject to negotiation.

Candidates should write fully to:

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86 Fleet Street
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As a new public company (financed by a "blue chip" concern) we are launching an exciting new mini-computer into the market, ranging from £5K to £25K.

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to £13,790 pa

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At least 3 years' systems experience is required, preferably as project leader. A degree in Computer Studies would be an advantage. Candidates should be aged between 25-35 years and be citizens of the UK or Eire.

Salary is on a scale rising to £13,790 pa, and includes a supplement paid from British aid funds. Basic salary attracts 25% gratuity. Other benefits include free passages, generous paid leave, children's education allowances and holiday passages, outfit allowance, appointment grant and supplement advance.

For full details and application form please phone Paul Tannet on 01-222 7730 Ext 3626 or write quoting ref YRIN/1009/CW to:

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- The analysis, design and implementation of complex systems
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- Equipment selection
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Ideally, you will be a graduate in your mid/late 20s with at least 4 years experience in data processing of which over 2 years will have been spent in systems design and analysis. You must also have the communicative ability, strength of personality and drive essential to succeed in a demanding business environment.

Future prospects are excellent. Assisted by the company's own in-depth training and external courses, you will benefit from continual career development and be expected to progress rapidly into senior DP consultancy positions with opportunities to diversify into other spheres of business.

Other benefits include frequent salary reviews on merit, generous travel and accommodation expenses and subsidised private health insurance.

If you feel that you have the ability and the determination to make it to the top, contact us by telephone or in writing quoting Ref: CW2993.



**Lloyd Chapman
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USA
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As one of America's leading software consultancies, our client is seeking to recruit

Analyst/Programmers and
Programmers

to join their project teams working on a variety of financial and industrial applications at locations throughout the USA.

Applicants should have a minimum of 4 years COBOL and/or PL/I gained in an IBM environment, with at least 2 years experience of IMS and/or CICS. A broad knowledge of IBM utilities would be advantageous.

Although initial postings are for a year they may well be extendable. Excellent salaries, including relocation costs, medical and life insurance cover, are on offer. Only those of single status, or married without children, will be considered.

We are interviewing now, so that short-listed candidates can be finally interviewed by our client, here in UK, in January 1983.

For further details please telephone: Mark Clifford or Nadeen Holt on (0462) 57141 during office hours on 0462 727652 evenings and weekends.

Alternatively forward your resume to:
Marketing and Recruitment Division,
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Reference MR1094 must be quoted
It is a registered employment business licensed by O.U.L.

PROGRAMMER/
ANALYST

Applicants are invited for the post of programmer/analyst in the Data Processing Unit of the University Administration which uses the University's central computing facilities. It is intended to exploit the potential of a new large interactive main frame five on line database and networking techniques. The person appointed will be of graduate level experienced both in commercial systems and COBOL, FILETAN or other systems programmer would be an advantage. The appointment will be made on the scale £3300 to £9700. Further information and application form from Paul Johnson, Student Recruitment Officer, ref 82214, Loughborough University, Loughborough LE11 3TU.

Imperial Cancer
Research FundSystem Controller/
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Programmer

required by our Finance Department to control all aspects of the computerised financial services provided on a PDP11/44 (HSR) system, including responsibility for developing existing financial software. Commercial background. Two years' programming experience (BASIC preferred) and system control on a microcomputer essential. Salary negotiable, 5-week holiday, pension scheme.

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Box number replies should be addressed to:

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the cream of the nation's DP personnel. (36,756 people attended last year. Even more are expected this year.)

- REACHING COMPUTER WEEKLY'S INDUSTRY-WIDE CIRCULATION OF 100,263 (ABC Jan-June 1982)—including the largest number of job-moving categories covered by any computer journal.

Copy deadline:
11 a.m. Monday, Nov 8



A limited number of special positions are still available. For more facts, please contact your nearest Computer Weekly classified office, at London—Tel. (01) 661 0121; Manchester—Tel. (061) 872 8861; Birmingham—Tel. (021) 356 4838.

Computer Weekly
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Rochdale Metropolitan Borough Council has decided upon a progressive development strategy operating on an ICL 2850 and later 2860 running under CMC VME 2800 and OMS. Some 30 terminals are currently in use and it is estimated that in 1983 systems serving 75 terminals will be in operation.

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£5,350-£5,920 (Pay Award Pending) including 12 1/2% shift allowance (bar at maximum of 40%).
This is a vacancy for a Senior Operator working a two shift system. A minimum of 2 years' experience on ICL 2800 equipment, preferably using the VME operating system is required.

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Career AP2/5 £5,064-£7,870 (Pay Award Pending)
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Application Forms available (quote Ref. No. 1 from the Chief Personnel Officer, PO Box 88, Municipal Offices, Smith Street, Rochdale OL16 1XG) telephone 47474 extension 682) to be received not later than 12th November, 1982.

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Salary negotiable and car
We are seeking an experienced Programmer who has an interest in and the aptitude for Sales Support. The work involves visiting client premises to provide advice, assistance and internal training to users.

You should have commercial applications experience and a knowledge of BASIC.
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1× DOS/VSE, CICS Systems Programmer

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2× DATA GENERAL, AOS, INFOS Systems Programmer

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1 year tax free, free flights, accom.

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3× VME Systems Programmers

(Dumpcracking, work management, etc.)

1× VME COMMS Systems Prog

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International concern retaining IBM 4341 running under DOS/VSE urgently seeks Programmers PL1 or Cobol min. two years' exp. to join busy development team. Experience in on-line systems, CICS VSAM an asset. OPPORTUNITY TO MOVE INTO ANALYSIS. Excellent benefits inc. superb social/sports facilities.

PDP BANKING CITY £9,000 + MORT.

DUE TO EXPANSION, a major banking group require TWO DEC PDP Programmer Analysts to join support team. Candidates will have exp. of financial applications and a genuine interest in Data Communications, exp. of BASIC+/AIMS. Normal banking benefits apply.

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IBM COBOL/OS/VS1 programmer looking for a definite career move, are needed to join this well established concern retaining IBM 4341, 3031's. Experience of the following desirable: CICS, DL1, IMS DB/DC, TOTAL DATABASE. Call now for more information.

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Experienced Sales Executives will ideally be aged 25-45 yrs with a minimum of three years experience of selling

commercial computer systems to End Users preferably within the business/accountancy/financial applications areas.

Trainee Sales Executives. Although we use the term trainee, candidates aged under 30 years, must have either previous sales experience in a related field (e.g. peripherals, micros, bureau etc.) or have a very relevant support and/or applications background and a sound working knowledge of commercial business systems.

In addition to an excellent income package we offer exceptional training and career prospects, a car and the benefits normally associated with a major company. For further information contact Harry Clark on 031-228 6419 (8am-7pm). Please quote Ref. 191/108

(13/9)

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Languages preferred - French if possible.

Full CVs are required urgently.

We need six Systems Engineers.

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Real-Time Programmers

Netherlands: Salary to £15K

A leading International Systems House and Turnkey Supplier is seeking to recruit a number of Software Programmers and Systems Engineers for permanent career positions commencing in early 1983. Suitable candidates should hold at least a numerate degree and have two years' software programming or systems engineering experience in an industrial environment. Candidates who have programmed in one or more of the following languages will be of special interest: MACRO 11, PASCAL, C, PL-M or CORAL. Hardware experience is less important but those who are currently working in a development role on PDP-11/VAX, Argus, Intel 8086/8 or Motorola 68000/68010 will attract a salary premium. Whilst not mandatory, some fluency in a foreign language (or even willingness to learn) e.g. Dutch, German or French is an advantage. The Company offers external language courses and a generous relocation package to the Netherlands. First interviews will be held at our offices in November. Ref: L/43/A

Snr Systems S/W Engineer

N. Home Counties: Pkg to £16K

A most interesting and unusual opportunity has arisen within the Development Department of a leading computer manufacturer which is developing a new generation of machines. In order to assist in this development they require a Senior Systems Software Engineer with a minimum of seven years' compiler development experience to join them. Experience with a large number of languages is desirable, as is a knowledge of multi-processing systems. Specific responsibilities will include the definition, implementation and maintenance of Systems Software and, also, the development of a strategy for coping with applications languages in a multiprocessor environment. The ability to co-ordinate the activities of a number of project teams will be sought. Ref: L/43/B

Comms Systems Designers

W. Home Counties: Salary to £15K

A number of Communications Systems Designers are required for the provision of consultancy services across a wide number of projects and ensuring that performance parameters and quality assurance criteria are achieved. Good personal communication skills (both oral and written) are very important. You should also be prepared to undertake business trips both nationally and internationally. Ref: L/43/C

Pascal/UNIX

E. Midlands: Salaries to £9K

One of the UK's leading microcomputer consultancies, renowned for its range of products based around the UNIX operating system, is currently seeking a number of Programmers and Analysts/Programmers to be based at its East Midlands development facility. Suitable applicants should preferably hold a numerate degree and have programmed for a minimum of two years in either PASCAL or C on any leading 16 or 32 bit microprocessor. Ideally, you will have some knowledge of the UNIX operating system, but this is not essential since training will be provided. Working as a member of a small project team you will be involved in various applications including Local Area Networks, Office Information Technology and Graphics. Ref: L/43/D

Communications Software

Inner London: Salary to £15K

The Communications division of a leading, international systems and software house has a number of vacancies for staff from Programmer to Project Leader/Consultant level. All applicants for these positions will be required to possess at least two years' message or packet-switching experience. Particular hardware experience is not sought, although preference will be given to candidates with exposure to PDP or VAX-based systems. Of special interest will be those who have also utilised microprocessors to provide shared communications functions on at least one major system. For the more senior positions familiarity with the I.S.O. reference model or any European P.S.S. is a prime requirement. Ref: L/43/E

Compiler Development

London & Home Counties: Salaries to £14K

A major Systems and Software House has recently embarked on a large new project requiring the expertise of a number of Compiler Development Specialists. Suitable candidates will have participated in the development of either a Pascal or Ada compiler, preferably for 16-bit micros. Familiarity with all phases of compiler development is strongly desirable with particular emphasis placed on Code Generation and Optimisation. Whilst specific responsibilities will vary, depending on the ability and experience offered, all successful candidates will be involved from initial proposal stages through to the creation of a fully self-supporting compiler. Ref: L/43/F

Telecomms Consultants

Central London: Salaries to £16K

A highly regarded supplier of Integrated Data and Telecommunications Systems wishes to recruit several Senior Consultants for its U.K. Headquarters. Ideally, candidates should have previous experience in the evaluation and selection of PABX/LAN equipment and have actively participated in the investigation and installation of PTT Telexnet applications within multinational corporations. All respondents must demonstrate previously successful involvement in both project and budgetary control in particular where the client has requested a total consultancy service from strategic studies through to recommendations, on-site implementation and final acceptance. Good personal presentation skills are of paramount importance since you will be expected not only to present recommendations at board level but also to persuade multiphase users of the viability of new developments within telecommunications. Ref: L/43/G

Graduate Programmers

London and H. Counties: Salaries to £7.5K

A number of exciting opportunities have arisen in London and the Home Counties for Programmers who have recently graduated. You should hold a first or second class Honours degree in Mathematics, Computer Science or Electronic Engineering. Of particular interest will be applicants who have completed a sandwich course and can offer 12 months' industrial training experience. It is essential that you offer fluency in PASCAL, C, ADA or Assembler. Ideally, your project work should have included compiler writing, artificial intelligence, UNIX or firmware development. Ref: L/43/H

Continued on p. 34

Underwater Weapons and Sonar c£7K to £16K Home Counties

My client is a new, rapidly expanding, medium sized, successful company, determined to maintain world leadership in the design, development and manufacture of some of the world's most advanced underwater systems. They currently require engineers to work on the following activities associated with new, state-of-the-art, major projects and private-venture work:

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Including dealing with either total weapons systems or sub-systems; developing the philosophy of original development and experimentation needed to support advanced systems development; Performance Specification; Algorithm Development; Trials Planning; Trials Engineering; Trials Analysis/Data Analysis.

Software Design and Programming

Involving Assembler, Fortran or Coral and including development and assessment of advanced software; logic for control purposes; Interface software; analysis of data from Trials or Simulations.

Computer Modelling

Including generation of overall weapons systems real-time models for performance evaluation using very high-speed, high-power digital computing facilities including VAX 11/780; AD10 and FPS 120B array processors; acoustic modelling of the environment.

Acoustic Signal Processing

Including filtering and correlation techniques and the interpretation of acoustic data for weapons control.

Analytical Studies

Including studies of target echo characteristics and boundary reverberation studies.

Technical Management and Team Leadership

To head-up multi-discipline and specialist teams on new major projects and private venture work.

You should be in the alert of challenging new projects, at the forefront of underwater technology, and be part of small, dedicated, enthusiastic, multi-disciplined teams, in which everybody's efforts will have a tangible effect. The tasks generally involve an interesting mix of practical and theoretical work. Being a new, rapidly expanding company that is aggressively developing new business areas, the prospects will be far reaching and first class.

For an early interview telephone BERNARD INNES on complete confidence on: HEMEL HEMPSTEAD (0442) 42418 during office hours or on HEMEL HEMPSTEAD (0442) 211814 evenings or weekends (not an answering machine). Alternatively write to him at Executive Recruitment Services, Collins House, 58 Wootton Drive, Hemel Hempstead, Herts.

Executive Recruitment Services

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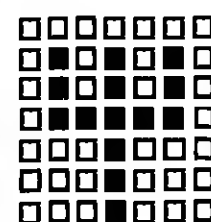
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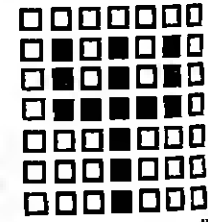
Apply in writing with full curriculum vitae to:

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TRIDENT COMPUTER SERVICES PLC
Trident House, 36/44 Victoria Road, Farnborough, Hants.
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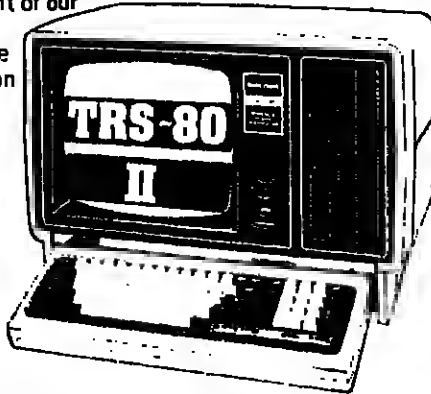
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For further information please contact ADRIAN HARDY on 01 935 0671 (24 hour answering service) or Ashford, Middlesex (07842) 48028 evenings and weekends.

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Specialist Computer Recruitment Ltd
James House 46 James Street London W1M 6HS 01-935 0671/480 0481
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Technical Author Software Products

Technical writing is a skill that we value highly. We're CTL an all-British mini-computer manufacturer with a long record of success - and committed to extensive growth over the next few years. We place considerable importance on the quality and presentation of our technical manuals, and now as a part of our expanding marketing programme we need a further Technical Author to be based in Hemel Hempstead.

Working in our Product Development Division you will be responsible for the preparation, production and up-dating of the software product end-user documentation. Software applications include transaction processing, production control, report generation, accounting and text processing - it goes without saying that you will have word processing facilities at your disposal. You will liaise extensively with both programmers and engineers and will be able to absorb technical information quickly. In addition you will be working with the marketing management on the origination of sales literature.

In order to cope with all this you will need a background of at least 2 years in a systems environment. Ideally with an understanding of the production of software documentation. Additionally, a useful asset would be the ability to produce simple illustrations.

If all this sounds like you and you feel you could write your own success story at CTL we'd like to hear from you. Please phone David Drake on Hemel Hempstead (0442) 3272 for further details. Alternatively write with full career details, CTL Ltd., Eaton Road, Hemel Hempstead, Herts HP2 7LB.

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Confidential Reply

Systems Designers
to £13,500

Our client has an international and dynamic reputation for designing and building fully integrated software and engineering systems. New orders have provided interesting opportunities for Systems Designers to work on the development of display and data handling systems for advanced technical applications. The successful candidate should have around seven years' systems design and implementation experience, a developed understanding of real time software in a minicomputer environment, and an ability to convey ideas and concepts effectively. Additionally, some knowledge of hardware and electronics would be advantageous, but not essential. Company benefits are generous including relocation, flexible working hours and five weeks holiday.

LOCATION: ESSEX

JA807/1

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SALES
EXECUTIVES

Basic to £12,000
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Butel Business Systems are a dynamic and progressive supplier of Turnkey Systems providing a complete and comprehensive service to their rapidly expanding client base. This expansion has created a requirement for ambitious and adaptable Sales Executives with a successful track record gained over around two years in a relevant field. The successful candidate will be responsible for new business development and Butel would like to hear from Order Creators not order takers. In addition to a basic salary and fully expensed car of your choice, an excellent bonus structure exists which will produce on-target earnings of £25,000 per annum.

LOCATION: HAMPSHIRE

JA807/2

dp

Confidential Reply

SOFTWARE ANALYST
c. £10,500

One of the world's leading manufacturers of photographic materials are seeking to expand with the addition of a Software Analyst. The successful candidate will provide support to the Operations and Systems and Programming functions and the post will appeal to those candidates with a strong operations background gained in a Honeywell environment supporting Cobol and running under GCOS3. Applicants should also have a knowledge of GMAP and a familiarity with the principles of IDB/2 and DMA TP. In addition to basic salary there are a wide range of large company benefits including an annual bonus and assistance with relocation.

LOCATION: CHESHIRE

REF. JA807/3

MPI
PROGRAMMER

to £12,000

Microcomputer Products International are leading suppliers of software for OPM based micro's. Planned expansion has created the need for an additional Programmer to provide customer support and develop programs and systems, utilising an extensive range of microcomputers. The successful candidate should have gained around five years programming experience in a large mainframe environment supporting Cobol. In addition a knowledge of Assembler is desirable and applicants will be able to demonstrate effective user liaison skills. Salary is in a range according to experience and in addition to usual benefits this position will attract free membership of BUPA.

LOCATION: BARKING

JA807/4

dp

Confidential Reply

SYSTEMS
CONSULTANTS
to £15,000

Our client is an established software house providing a diversified range of services to the financial industry. Increased business has created a need for Systems Consultants to play a leading role in the major development of a number of pensions, life and corporate systems. Applicants should be highly adaptable with the ability to liaise at all levels and the potential to move into a management function. A high degree of systems design and analysis skills are required and a knowledge of pensions systems will be distinctly advantageous. In addition to salary, a range of benefits are available normally associated with the financial sector.

LOCATION: SURREY

JA807/5

OCL

SYSTEMS
PROGRAMMER

£ excellent

Oversize Containers Limited, a world leader in container transport, has a requirement for ambitious Systems Programmers who are capable of exploiting their experience in an innovative and dynamic environment. The ideal candidate will have a thorough knowledge of DB and TP software (preferably IDMS, CICS and VTAM) and will form part of the TP support team. This team will be involved in major software upgrades to support an expanding TP network. Software plans for the coming year include installation of NCC/VTAM, ACF/VTAM version 2, MVS/SPB and CICS 1.8. OCL offer excellent salaries and the usual benefits associated with a large organisation.

LOCATION: LONDON

JA807/6

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your experience of the market will be considered as of the greatest importance. As this appointment to a large extent, will determine the level of success for the company, an equally high level of commitment and sheer hard work will be vital.

In return, the successful candidate will be rewarded with a substantial remuneration package consisting of a salary of circa £10,000 plus projected bonuses that will add another £8,000 a year. But, of greater consideration will be the prospect of a directorship in about six months and financial rewards totally representative of the company's growth and success.

Please contact Tony Crew, on the number below or 0908 583147 evenings and weekends, who will outline the company in greater detail and answer any questions.

micro AND

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With good experience within ICL 2900 VME environments coupled with at least a 2 year exposure to COBOL and possibly FORTRAN. Duties will encompass support of operating system, and superstructure software through hands on involvement and the supervision of a small VME team. Consequently skills in project planning and team leadership are highly desirable, as are telecomms and database experience.

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To provide an efficient support interface between applications development and technical personnel. A knowledge of COBOL and preferably FORTRAN is required to enhance a sound background in TP and Database technology (preferably IDMS and RAPPORT).

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This is a newly created key role where your responsibilities will involve you in capacity planning and the constant monitoring of hardware/software to maximise total performance. An in-depth knowledge of the tuning of MVS and IMS is essential and it is likely that you will already have an extensive IBM systems programming background.

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The Systems Programmer will be responsible for the design, development and implementation of large IMS systems including database design, of IBM 8100 developments under DPPX.



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Our client in Zimbabwe is a major international British Company, currently handling approximately 50% of the country's computer installations, and keen to expand their share of the market even further. To realise this aim the company is seeking experienced, enthusiastic ICL orientated personnel for several key positions.

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System 25/System 10 Support Staff. This post requires practical experience of installing business systems and an up-to-date appreciation of the packages and software available.

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All vacancies are offered on either a permanent or contract basis.



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THE LOCATION
Zimbabwe is widely regarded as one of the most beautiful countries in Africa, with breathtaking scenery and an idyllic climate. An expanding economy providing a sound basis for considerable industrial and commercial growth planned by the government. Zimbabwe for the next decade, Europe in Zimbabwe enjoy a superb lifestyle with excellent social and sporting facilities readily available.

THE PACKAGE

The first class remuneration package reflects the importance our client places upon the positions and includes: • An excellent salary • Relocation expenses and settling in allowance for successful applicants and their families where appropriate • Free temporary accommodation on arrival in Zimbabwe, and subsequent help with finding a permanent home • First class medical aid, pension, accident and medical insurance • 24 days annual leave

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Kent

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Our need therefore is to appoint an individual to spearhead our small, select pre sales team in supporting our expanding salesforce.

In addition to the obvious personal qualities necessary for such a sales orientated management function, we would wish to see evidence of a sound appreciation of telecommunications, where ideally, your experience has stemmed from a design/development function. Latterly, you will have gained significant exposure to British Telecom network practices and technologies with a full appreciation of Store Program Control PBX with experience of both hardware and software.

Whether currently employed in a similar capacity, or whether engaged in a Communications Management function with a large User, we are confident that we can offer the career minded individual unlimited scope for personal advancement.

For consideration, contact our Advising Consultant, **ANDREW CARTER** on 01-935 0671 (24 hour answering service) or submit a detailed Curriculum Vitae to him at the London Office.

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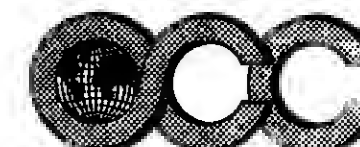
MAINFRAMES

Successful candidates will have at least 4/5 years of proven experience handling six figure negotiations at board level and will recognise the importance of understanding the problems that face business and the role that DP plays in solving them. Responsibilities will include both new business generation and developing existing accounts. A mature approach is called for and our client is open minded regarding age. Applications are invited from all parts of the country, and in particular, from the Thames Valley, Southern Home Counties, Manchester and Birmingham.

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- Word Processing
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CP/M — BASIC — COBOL — Comms — with some experience of IBM Protocols 2780/3780/3270. DEC — VT100 & I.C.L. CO1, CO2, CO3.

*We would also be interested to hear from Sales personnel with '12/24 months' microcomputer sales experience, preferably to multinationals. Bc£11K+Comm.

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Assembler, CICS, COBOL, OS, TSO/SPF, TPMS, IDMS or Telecommunications exp. essential - French speaking. FOCUS, RAMIS. Programmers, Analyst/Programmers. USA, USA. Systems Engineers, Analysts/Programmers. Belgium, USA.

UK

COBOL, IMS, DB/DC ADF. Programmers, Analysts/Programmers. Home Counties; Worcestershire. COBOL, MARK IV, Delapoint, RPS in, S39. Team leader, Programmer, Analyst/Programmers. LONDON, Essex; Berkshire. BASIC, BASIC + 2, FORTRAN, TOP, RSTS/C. Programmers/Analyst. Berkshire. COBOL or Assembler, Philips P7000, IBM Series 1 RPS. Analyst/Programmer, Programmer, Analyst/Programmer, Technical Writer. LONDON, LONDON. BASIC Philips P7000, APL, CPS, IBM 4341, DEC VAX, DEC VAX 11, BASIC. Programmer, Programmer, Analyst/Programmer. Berkshire, LONDON, Home Counties, Home Counties.

For more information please contact:

Resources Department
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Tel: Romford (0708) 750201
(24-hour answering service)

DURHAM UNIVERSITY LIBRARY SYSTEMS LIBRARIAN

Following the successful implementation of the GEAC on-line circulation package in the Main and Science Libraries and in-house catalogue production based on LOCAS, we are now looking for an experienced Systems Librarian to help us maintain these and other developments and plan programs to integrate systems for a new library building to be occupied in 1984.

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£11,642-£17,880

The Legal Aid Department of The Law Society require a computer manager for their central installation in London. The equipment is a UNIVAC 90/40 and is used for extensive file maintenance, accounting, bill paying, payroll and statistics. Fifteen area offices pass information to the centre for data preparation prior to input. Development plans include distributed processing with communication links to the centre. Applicants, male or female, should be about 40 or under and have wide experience in all aspects of computer management, including communications. Shortly after joining, the successful applicant will be required to participate in a fundamental review of the existing central office system which may lead to radical changes.

Conditions of service are attractive and include 23 working days leave, and a public sector linked superannuation scheme.

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The successful applicant will have a minimum of three years' RPG II/ System 34 experience - a knowledge of COBOL would be an advantage.

In addition to an attractive negotiable salary, the usual company fringe benefits apply.

Please reply to: Ken Say, Head of Group Resources Division, Tangent Computer Services Ltd., 102/106 South Street, Romford, Essex. Tel: Romford (0708) 750201. (1471)

FINANCE DEPARTMENT

Junior Programmer

SALARY £5,623-£7,368 inclusive

The County Council has just installed an IBM 4341 operating under VM/CMS and DOS/VSE. Considerable growth in computing is expected throughout the County Council during the next few years and an excellent range of applications is planned for the new computer. The introduction of corporate databases, information systems and personal computing give promise of a very varied and interesting future for the computer staff.

To assist with the implementation of these new systems we require a Junior Programmer with not less than 12 months' experience of IBM COBOL and an excellent knowledge of CMS, CICS, EASYTRIEVE and/or UFO would be an advantage.

Relocation assistance is payable in appropriate cases and temporary housing may also be made available. Applications (no formal, giving details of experience, present and previous employment, together with the name and address of two referees, to: County Treasurer, County Hall, Hertford, quoting reference CP400, by November, 1982.

Hertfordshire County Council

Planning and Transportation Team Leader - Computing Services

Up to £10,928 p.a. (pay award pending)

The Department's computing service group consists of two teams supported by a wide range of up-to-date equipment which includes 15 terminals to the mainframe, ICL 7502, DRS 30 and DRS 80 linked to a 2860 and 2875, and a Philips word processor.

An enthusiastic team leader (male or female) is required to manage the team which develops and supports technical applications, mainly in highway design, structural analysis, waste disposal and land use planning. Applicants should have a wide experience of working with computer in a technical environment, preferably in a managerial or supervisory role. Experience is essential in the use of FORTRAN and BASIC languages and the use of programmes such as MORG and those provided by HCD.

This is a re-advertisement and previous applicants need not re-apply.

If you wish to discuss this post informally please telephone John Harvey on Nottingham 82424 ext. 307.

Application forms and further details are obtainable from the Director of Planning and Transportation, Bridgford, Nottingham NG2 6BA or telephone Nottingham (0602) 84824 ext. 336.

Closing date 4 November, 1982. (1384)

Nottinghamshire County Council County Hall, West Bridgford Nottingham NG2 7QP

The whole of your future in software can be expressed as a simple sequence of digits.

01-439 8841

TODAY THURSDAY 28th OCTOBER 12NOON - 8p.m.

If you're thinking about what happens next in your career, you could find the answer in this simple sequence of digits. It's a phone number, of course, one which will connect Software Specialists with a company right at the heart of a number of complex projects with both military and civil applications. A company which has one of the biggest software centres in Europe and is breaking new ground in advanced real-time data handling and display systems. Involving mini and microcomputer applications packages, standard software, compilers and operating systems. A company in which professional men and women can find new challenges for years to come, in one of these roles:

DESIGNER ENGINEER PROGRAMMER

Before you reach for the 'phone, we'd just like to be sure that your experience includes mini/microcomputers, multi-access and real-time systems, and that your qualifications include a degree or equivalent.

If they do then all you have to do is ring us TODAY THURSDAY 28TH OCTOBER on 01-439 8841 between 12 NOON - 8 P.M. and tell us about yourself.

If you are unable to ring us today, send brief career and personal details to Confidential Reply Service, Ref BBT 8541, Austin Knight Limited, London, W1A 1DS.

Applications are forwarded to the client concerned, therefore companies in which you are not interested should be listed in a covering letter to the Confidential Reply Supervisor.

DATA PROCESSING JOURNALIST

Do you have:

- a talent for writing?
- real interest in computers?
- ability to get people to talk?

If so, and you are able to put together readable, factually accurate copy, you may be the Data Processing staff-writer Accountancy wants. Accounting experience, or a data processing background, would be helpful.

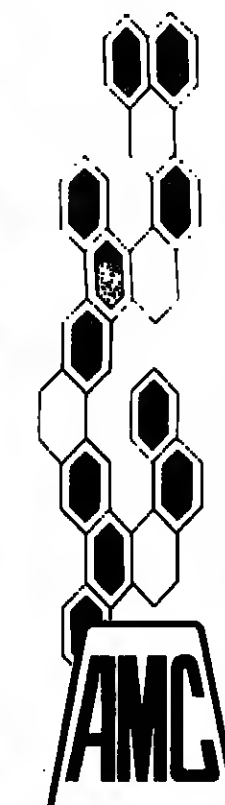
Keenness and talent are important; more so even than wide journalistic experience.

We are looking for someone with an unquenchable desire to obtain/maintain a broadly-based knowledge of computing and modern management techniques.

An attractive salary will be paid to the successful candidate.

Please send brief details of your experience and career to date, in strict confidence to: R. N. Collier, Senior Personnel Officer, The Institute of Chartered Accountants in England and Wales, P.O. Box 433, Chartered Accountants' Hall, Moorgate Place, London EC2P 2BJ, or telephone Geoffrey Holmes, Editor, Accountancy (01-626 7080).

Accountancy



Programmer/Analyst Career Opportunity

We are a major multinational with a developing Data Processing function providing a group service from the London-based Head Office and we currently have a requirement for a Programmer/Analyst who will initially have involvement with programmes from design through to implementation.

The ideal candidate will have gained at least 3 years COBOL programming experience together with a knowledge of systems design and now be looking for career development within a growing environment. This position offers a competitive salary plus usual large company benefits.

If you think you have something to offer to a developing department please apply in writing, giving full details of education, experience and current salary to: Heather Clarke, Amalgamated Metal Corporation PLC, Adelade House, London Bridge, London EC4R 9DT or telephone on 01-626 4521.

Amalgamated Metal Corporation

SALES EXECUTIVES

SALES EXECUTIVE - DG MINIS

Young Aggressive Sales Executive with good track record to sell DG Minis Southern England based Southampton. High Salary neg. Car to 25K.

ACCOUNT MANAGERS - DDP - MINIS

To sell DDP systems, minis/mainframes, office automation. Proven track record - based West London. Basic £10k-20k car.

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To sell Super Micro Networks. Based in London. Basic to £10k. Guarantee. Car or allowance.

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Experienced Micro Sales Executive to handle a dealer network Northern Home Counties/Midlands. BK Basic neg. Car - 18K.

SALES EXECUTIVE - BUREAU/SW

To sell bureau and SW services. Based SW London. Experienced Sales Executives only. Basic Negotiable. Profit Sharing. Car - 18K.

Plus many other good sales vacancies.

Telephone for an appointment.

SDS CONSULTANTS

COMPUTER PERSONNEL CONSULTANTS

150 Regent Street London W1R 6PA Tel: 01-439 6288

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COMPUTER FIELD ENGINEERS SUPPORT ENGINEERS MANAGERS STACK CPU REPAIRS SPECIAL SERVICES RECRUITMENT VACANCIES MINIS MAINFRAMES PERIPHERALS PERSONNEL LOCATIONS UK SALARIES £6K - £10K Annual and Overtime Allowances 30% Bonus

STACK ASSOCIATES RECRUITMENT CONSULTANTS (09324 42729)

PROGS & AN/PROGS
HP 3000

to £10,000
Rapidly expanding alt in C. London seeks programmers and analysts/programmers to enhance their existing team. Applicants must have a minimum of 18 months' HP 3000 experience and can expect considerable client contact. Programming language is immaterial as full training in the latest HP systems will be given. Excellent career prospects are assured for the successful candidates.

SALES SUPPORT

c £11,000
International Company based in C. London requires analyst/programmers to work in sales support areas. A solid DP background is essential together with a good academic record. Experience in the financial sector would be useful as would knowledge of INTEL equipment.

PROGRAMMER/ANALYST
ICL COBOL

£9,000
Large ICL user based in North Surrey is seeking to recruit several programmer/analysts to complement its existing VME development teams. Applicants should have a minimum of 18 months' VME/COBOL and should be familiar with either IDMS database or on-line programming techniques. Usual large company benefits apply.

PROGRAMMER
HONEYWELL

£10,000 + Mort.
Prestigious company in C. London requires a programmer with a minimum of 18 months' Honeywell Cobol experience. Applicants should be familiar with commercial applications and have a working knowledge of TDS on-line techniques. An excellent salary package is offered together with a preferential mortgage and other large company benefits.

PROGRAMMER
RPG SYS 38 TRAINING

£8,500+
North Surrey based company has identified a requirement for an RPG programmer. They have been a SYS 38 user for a year and are prepared to give the necessary training to existing RPG programmers. The minimum requirement is 1½ years' RPG preferably from a SYS 34 environment. As well as SYS 38 RPG III training the client encourages early exposure to systems.

ANALYST/PROGRAMMER

£10,000
Engineering company located in C. London requires an analyst/programmer with a strong commercial COBOL background. The position is based in the management services team of five people. The minimum requirement is two years' COBOL with a good understanding of accounting systems. There is a lot of user liaison and therefore applicants should have good communication skills.

PROGRAMMER
BASIC/RTSE

c £8,000
A systems house specialising in OEC systems has a requirement for two BASIC + programmers. Applicants should have around 18 months' BASIC gained in any commercial environment. This is an ideal opportunity for programmers to move on to VAX systems as the client is installing several VAX machines.

DATABASE PROGRAMMER
UNIVAC

c £11,000
Well known company in London requires a database programmer to supplement their established team. A thorough knowledge of DMS 1100 and COBOL is required as the position carries the status of senior programmer. Although there are expansion plans a degree of maintenance is expected. Applicants should have a professional outlook and attitude.

PROGRAMMER
CTL COBOL CORAL

c £10,500
International bank in the City require an experienced programmer for their team. The prime requirement for this position is a minimum of one year's programming on CTL hardware together with two years' experience of financial systems and packages. Usual banking benefits apply for this position.

STOP PRESS ***

ICL VME/B ANALYST/PROGS FOR LUXEMBOURG.
£15,000 + + + 4 years' COBOL plus good analysis exp.

This is just a small selection of current requirements: for details of these and others not advertised call us now.

APEX COMPUTER RECRUITMENT LTD

LONDON
59 Gray's Inn Road
London WC1X 8TL
Tel. 01-404 4821, 24 hrs.

BRUSSELS
Rue Gatti de Gamond
Uccle 1080 Brussels
Tel. 010 322 377 4913

**HARDWARE/
SOFTWARE SALES**

LONDON

c. £15,000

Our client is a well-established software house and is currently looking to recruit a salesman to promote complete systems to companies in the fashion trade.

The ideal candidate should not only have an interest in new computer technology but want to get involved in selling systems and managing pre- and post-sales support. A good knowledge of computer applications would be an advantage but specific fashion industry training will be given. Candidates will be self motivated, have the ability to communicate at all levels and compete in a dynamic fast-moving market place.

A good basic salary and attractive commission scheme would ensure that the successful applicant can expect to earn in excess of £15,000 per annum in their first year.

For more details please contact Dave Bowman.

APEX COMPUTER RECRUITMENT LTD.

**ANALYST/
PROGRAMMER**

MIDDX

HP 3000

c. £9,500
+ CAR

Our Client, a well-known company in the retail business, wishes to recruit an experienced Analyst/Programmer. They are an established computer user and have a variety of applications running on their HP 3000 with major developments planned for the future.

Applicants will ideally have a sound DP background to include around 3 years' COBOL programming and an in-depth knowledge of Hewlett-Packard systems and software. The successful candidate would shortly assume the position of Assistant Computer Manager and should therefore be able to communicate at all levels. In return our Client offers an excellent starting salary and package, which includes a company car and N.C.P.S.

If you are self motivated, looking for a challenge and would enjoy working in a small friendly team environment contact MIKE HARMER at APEX for further details.

APEX COMPUTER RECRUITMENT LTD

LONDON OFFICE
59 Gray's Inn Road
London WC1X 8TL
Tel: 01-404 4821 24 hrs

BRUSSELS OFFICE
Rue Gatti de Gamond
Uccle 1080 Brussels
Tel: 010 322 377 4913

LONDON OFFICE
59 Gray's Inn Road
London WC1X 8TL
Tel: 01-404 4821 24 hrs

BRUSSELS OFFICE
Rue Gatti de Gamond
Uccle 1080 Brussels
Tel: 010 322 377 4913

Computer Staff

British Aerospace requires additional experienced Computer Staff to assist in meeting an expanding air force data-processing requirement in Saudi Arabia. Successful applicants will take part in the definition of project and system objectives, feasibility studies, construction of system specifications, and development of systems through to implementation. Existing installations include IBM 370 Series and IBM 4300 Series.

This is an opportunity to earn a high tax-free salary, with assured annual increments, as a Computer Specialist...

**...working in Saudi Arabia with
BRITISH AEROSPACE**

Ideally, candidates will have several years' experience in data-processing, including knowledge of MVS, COBOL and systems analysis. Experience in data base applications and knowledge of IMS DB/DC will be major advantages. Preference will be given to ex-Service applicants.

In addition to the attractive tax-free salary, successful candidates will receive free accommodation, messing and medical care and other benefits, including generous travel-paid UK leave.

Please apply in writing giving brief details of appropriate experience or telephone Preston 633333 Ext. 125.

Mr. D. Tully, Senior Personnel Officer, Dept. 0570W
Saudi Arabia Support Department,
FREEDST, British Aerospace Aircraft Group,
Warton Division, Warton Aerodrome,
Preston, Lancs. PR4 1LA.

BRITISH AEROSPACE
Unequaled in its range of job opportunities

**THE POLYTECHNIC OF WALES
POLYTECHNIC SYSTEMS
Computer Centre
SYSTEMS
PROGRAMMER**

AP23/4/82
SALARY: £5,000 - £7,500
per annum inc. (currently
under review)

Applications are invited for the above post for which experience and relevant qualifications are required.

The Computer Centre provides a service to all Departments in the Polytechnic and surrounding colleges using a DECsystem-20 minicomputer supporting up to 84 interactive users. In addition there is a range of mini and microcomputers. The main languages in use are COBOL, BASIC, and PASCAL.

The successful applicant can expect a variety of work in pleasant surroundings.

Further particulars and application forms may be obtained from: The Personnel Officer, The Polytechnic of Wales, Pontnewydd, 100, Glamorgan CF97 1DL. Tel: 01495 406153 ext. 3021.

CLOSING DATE: 12th November 1982. (1487)

The Polytechnic of Wales

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ADVERTISING USE
DIRECT LINES

RECRUITMENT
CONSULTANCIES
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DIRECT ADVERTISERS
(01) 661 8080

MAJOR NEW INSTALLATION

Key Operations Assistance Limited has been retained by a leading international finance group to assist in the recruitment of computer personnel for their new IBM 4341 installation based in South London. We are seeking applications from highly skilled individuals in the following areas:

SHIFT MANAGERS

- 5 yrs in depth IBM COBOL/OS experience
- Previous supervisory experience
- Exposure to advanced communications networks
- Career orientated
- Project Management Skills

SHIFT LEADERS

- 3 yrs in depth IBM COBOL/OS background
- Previous training experience
- Exposure to network control
- Management potential
- Career orientated

PROGRAMMER/ANALYSTS

- 3 yrs IBM COBOL & CICS experience
- Previous program development background
- Exposure to electronic banking advantageous
- Project Management potential
- Career orientated

PROGRAMMERS

- 2 yrs IBM COBOL
- Knowledge of CICS VTAM & TCAM preferred
- Previous experience of on-line & real time environment
- Career orientated

THE ABOVE POSITIONS OFFER A TRULY EXCITING STEP INTO 1983 WITH A COMPANY RENOWNED IN THE FINANCE WORLD FOR ITS INNOVATIVE DEVELOPMENTS IN THE FIELD OF COMPUTER TECHNOLOGY.

The HIGHLY COMPETITIVE and GENEROUS salaries offered are complemented by an EXCELLENT benefit package which includes: Mortgage facility, pension scheme, free BUPA, non-contributory pension scheme, free restaurant, active social club and car plan facility (applicable to certain grades only). We strongly recommend your early application in response to these positions to JILL MCGILL and KATHARINE LYON.

KEY SPECIALIST COMPUTER RECRUITMENT CONSULTANTS
72, Dean Street, London W1.
Telephone: 01-439 7551

**SALES
PROFESSIONALS**

Prefer people to products?

- * To £10,000 + Car + BUPA
- * £16,000 On-Quota Income

The world market for communications products is booming and with it the need for specialist technical and commercial management. Our business is finding these people; we are the market leader and we are growing - fast!

If you are 24-28, can count empathy, enthusiasm and analytical skills amongst your strengths and can develop business at senior management level, then telephone me, Paul Child today on 07535 56135 or evenings on 048 68 7403 or write to Kramer Westfield Associates Ltd., 31 Peasood Street, Windsor, Berks. SL4 1EA.

Kramer Westfield

**BLAGY DISTRICT COUNCIL
TREASURER AND CO-ORDINATOR'S DEPARTMENT
SENIOR SYSTEMS
ANALYST/PROGRAMMER**

Salary within Grade B01, £2,150-£3,733 (Award pending)
Applicants for the post should have four/five years' experience in analysis/programming work. Previous local government and UNIVAC experience would be an advantage. (Computer in the Data Processing Section).

The successful applicant will be part of a small but progressive team servicing a wide variety of financial and non-financial systems and playing a leading role in UNIVAC System 80 Computer.

Consideration will be given to the provision of temporary housing accommodation and legal fees and removal expenses are payable in appropriate cases.

Application form from the Personnel Officer, Council House, Newborough, Llanfair, Telephone: Llanfair 222.

Closing date: 8th November, 1982

**SOUTH AFRICA
ICL CONSULTANTS -
IDMS and/or TPMS**

1-2 Year Contracts - c £20,000

Our client is seeking a number of experienced support and implementation consultants with proven ICL/IDMS and/or TPMS experience.

Successful candidates will work at a major ICL user with go-ahead attitudes and one of South Africa's largest communication networks. Projects involve DME to VME conversion of existing systems and development of new systems running under VME.

Candidates will be offered 1-2 years contracts and a total package of plus/minus R.40,000 per annum plus relocation. These packages are financially attractive, even by South African standards.

The main computer installation is located in a superb office complex in Johannesburg and provides outstanding recreational facilities. The opportunity of travelling to Cape Town, Durban and other computer centres will probably also be provided.

This represents an ideal opportunity to combine career progression with the enjoyment of South Africa's sunshine and high living standards. Interested computer professionals should telephone CHAD STOLPER of PRESCOTT COMPUTERS on 01-838 6685. Or if you prefer write to him at, PRESCOTT COMPUTERS LTD., 17/13 BROAD COURT, COVENT GARDEN, LONDON WC2B 3ON. Telex 9814892.

(1487)

**GREATER GLASGOW HEALTH BOARD
BASIC SYSTEMS DESIGNER**

£6804-£8147 per annum (increases pending)
(additional computer duties allowance may be payable)

Applications are invited from suitably qualified and experienced persons for the above post in the Board's Computer Centre. The centre is located at 27 Park Circus, Glasgow, but will move to new accommodation in 9th Street in the near future.

Candidates should have had relevant experience and a good educational background.

The Board currently uses an ICL 1803T computer and is in the process of replacing it with a large ICL 2960 installation. The equipment change offers an additional challenge to the successful candidate.

Application form and job description may be obtained from the Personnel Officer, Greater Glasgow Health Board, 361 Sauchiehall Street, Glasgow, G2 7HT, to whom completed forms should be returned not later than Friday, November 19, 1982.

**SENIOR
RECRUITMENT
CONSULTANTS
LONDON AND WORCESTER**

MKA Personnel can point to an extremely successful record of achievement over the past four years, and we are now seeking to implement our next important level of growth with the addition of new offices in London.

Two Senior Consultants are required for our new LONDON base - they will be actively involved in setting up this new branch office. In addition, a Consultant is required to augment the team at our WORCESTER head office.

Candidates should have a comprehensive knowledge of the market place, including one or more of:

- Computer Manufacturers/Suppliers/OEMs
- Consultancies/Bureaux
- Users
- Contract staff

either in the field of recruitment or as current senior employees in the above. The rewards are flexible and attractive in a challenging and professional role, coupled with excellent opportunities for career development, both in Worcester and London, based on personal success. The overall package can be negotiated dependent upon individual circumstances.

Please telephone in confidence, either Don Knaggs, Managing Director, or Jeff Bowman, Director, at our offices:

**MKA PERSONNEL LIMITED
SHADES HOUSE
MEALOELEN STREET
WORCESTER WR1 2DQ**

Telephone: 0800 28468
Don Knaggs
(Home) 0299 400077

Jeff Bowman
(Home) 08848 3477

Computing
Services
Association

ANALYST PROGRAMMER
We have been retained by a leading international bank to assist in the recruitment of an experienced Analyst/Programmer. Working in the centre of London in modern surroundings you will be totally committed to developing new financial systems. To be considered for this position you should possess a sound IBM COBOL background with extensive knowledge of either CICS or DBL. Excellent benefits package. Ref: 200/W

IBM SYSTEMS PROGRAMMER
Well-established company with its headquarters in West London, require the services of a Senior Systems programmer. You will be involved in a wide range of activities with priority given to developing TP software. You should possess a minimum of 3 years systems experience with extensive knowledge of MVS, SP, SNA and VTAM. In return for your skills you will receive an excellent benefits package. Ref: 210/W

IBM COBOL PROGRAMMER
We are in urgent need of Programmers with upwards of 18 months DOS or OS COBOL to fill positions in London and the Home Counties. Openings exist in manufacturing, engineering, commercial, financial and insurance organisations with the latter the two most important. While some knowledge of an-line and database techniques is preferred, several companies would be prepared to train suitable applicants. All positions carry excellent benefits packages plus some with sub-maintenance. Ref: 220/W

IBM COBOL
Major Manufacturing Organisation based in Berkshire are seeking confident individuals with strong COBOL background on mainframes or minis. Good blend of programming and analysis with plenty of development work to work on a variety of projects including database in the Marketing and Distribution area. Large company benefits apply. Ref: 110/W

RPG 2 SENIOR PROGRAMMER
Work for this well-known Bank on IBM System 38 hardware. Successful candidates will possess a minimum of 2 years up-to-date experience of RPG2 or RPG3 - although training on the System 38 (RPG3) will be undertaken for the right person. All major fringe benefits on offer plus mortgage subsidy. Ref: 120/W

PL/I PROGRAMMER
Excellent opportunity to join Special Projects team: All that's needed is 2 years or more PL/I and CICS. Usual benefits associated with a major bank.

PL/I ANALYST
Join International organisation for major development work. Interesting work on IMS DB. Possibility at travel. Urgent.

JUNIOR PL/I PROG
9-12 months minimum experience. Whether DOS or OS/MVS backgrounds contact us now for positions throughout London and Home Counties. Ref: 100/W

ICL PROJECT LEADER
If you have 5 years extensive ICL experience and feel you are ready to take on a major project, we would like to hear from you. You should have a solid COBOL background coupled with a thorough knowledge of IMS, TP and DBE or VME in a financial or commercial environment. Ideally you should have seen at least 1 project through to implementation on any ICL mainframe. Ref: 300/W

MICRO ASSEMBLY PROG
Due to the quickly developing micro market, several well established software consultancies require experienced Programmers. You should have a minimum of 3 years experience in a commercial environment, using either Intel range at microprocessors at the 8080 series. Excellent promotion opportunities are available as clients are always undertaking major new contracts. Ref: 310/W

SALES EXECUTIVES WANTS
Our client, proving to be one of the fast developing companies in its field, urgently require professional Sales Executives to sustain their momentum. Ideal candidates should be aged between 25-35 and have a proven track record selling 32 bit minis to "blue chip" and users. The company offers extensive product training and provides thorough sales support service. Ref: 400/W

MICRO SALES
Due to internal promotions, our client, a major microsystem establishment, require professional people to complement their sales force. Ideally you should have a proven track record selling micros to small businesses or industry. The company will also consider applicants who have selling experience in the office equipment field. We have some sort of computer background and want to move into this very competitive market. Ref: 420/W

PERIPHERAL SALES
A rapidly expanding international company require experienced sales personnel to develop new accounts in the disc drive market. You should have a minimum of 3 years experience in this very competitive field and in return you will be given the opportunity to develop your skills to management level. Ref: 410/W

DESIGN ENGINEER
Our client requires an experienced design engineer to work in the company's industrial system department. You should have an HND or a degree in electronics or any related discipline. Ideally you should have been involved in the design and development of microprocessor based hardware modules. Extensive digital and analogue design experience is essential along with the ability to write design reports, test specifications and being capable of generating wiring schedules. Ref: 430/W

OPERATIONS

OPERATIONS MANAGER
Management role in DEC installation
Lots of user liaison and supervision
Based in Middles - excellent perks.
Ref: 500/W

SENIOR OPERATOR
Large OS/MVS installation
4 years relevant experience
Northern home counties/relocation assistance.
Ref: 610/W

OPERATIONS MANAGER
New 4300 DOS/VSE installation
Six years operating + managerial skills
Rural Essex offering excellent benefits.
Ref: 620/W

PERIPHERAL SALES
Due to expansion we require an additional Computer Salesperson to complement our Systems + Programming staff. You are used to working under pressure, have a strong agency or D.P. background and would be interested in hearing from you. Your salary expectations for this year would be in excess of £10,000 rising multiple with experience.

NETWORK STAFF CONSULTANTS LTD.

18 James Street
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TEL 01 491 3438

TELEPHONE: 01-491 3438

Daytime or John on 01-738 0780 after 7 pm.

WHERE IS THIS RECESSION? WE HAVEN'T NOTICED IT.

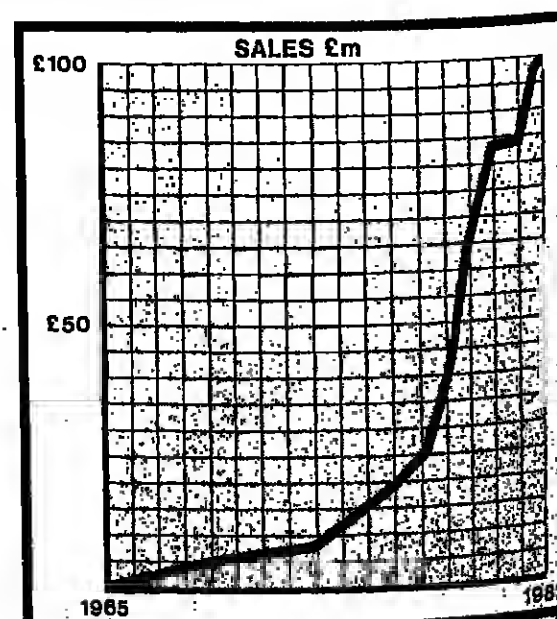
We're the market leaders in the fastest growing business sector in the UK, with a dramatic expansion record since our founding in 1965 to give us a turnover of £100 million plus this year.

The Data Processing Department, currently operating two IBM System 3 Model 15 D's has played a fundamental role in every major area of Company activity and current development plans include the introduction of a Remote Telecommunication Network, a Transport Scheduling system and new Stock Control systems plus major revisions to our current Data Processing Operation, based on new, extremely powerful WANG VS100 hardware. So, now we are recruiting

RPG II Programmers

to make a positive and effective contribution to our development plans. Successful candidates will have a solid background in RPG II and will be able to demonstrate the ability and responsibility to progress to senior positions within an active and expanding programming team.

If you want to earn a generous salary with other large Company benefits and if you enjoy hard work in a secure and challenging environment, then write with career details to: Chris Chaplin, Data Processing Manager, EVEREST DOUBLE GLAZING, Everest House, Cuffley, Potters Bar, Herts EN6 4SG. or telephone Hatfield 63535.



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01491 3438

Network Control in Saudi Arabia

Allied Medical Group are the British consultants to the prestigious Riyadh Al-Kharj health care programme designed to provide the very best of health care to the Armed Forces of Saudi Arabia and their families. The two hospitals which comprise the 555-bed Programme are new, and equipped to a high degree of sophistication. A further 300-bed extension to the Military Hospital at Riyadh is planned for 1985. The main Hospital has a Honeywell 98 minicomputer with a network of 3 linked Hewlett-Packard 3000 minicomputers and a specialist laboratory computer supporting extensive local and remote communication links, utilizing multiplexors and the latest fibre-optic technology. To enhance the development of the computer department we are now seeking an experienced

Network Controller c. £21,400 p.a. inc. tax free

Aged 25+ with HNC, you should have a minimum of two years' data communications experience, including protocol, cable, modem and terminal tests. Repair of VDUs, printers, modems and line drivers will be required, together with the ability to communicate clearly with the users. Working and living conditions are excellent and in addition to the tax free salary this single status two-year contract post attracts one of the best benefits packages in the Middle East.



For details, please write quoting Ref. AMG 123 to: Malcolm Craig, Senior Personnel Officer, Allied Medical Group, 18 Grosvenor Gardens, London SW1W 0DZ. Alternatively, call our 24-hour answering service on 01-730 5359, quoting reference number.

Allied Medical Group

The best of British Health Care in the Middle East

ANALYST/PROGRAMMER Near Sevenoaks

Butterworths is one of the largest UK Book publishing houses and specialises in legal, medical, scientific and technical books. We are looking for a person with good academic qualifications (preferably a degree) with an aptitude to develop programming and analysis skills. Experience in this area would be an advantage. The person appointed will join a small team which provides computing services to all departments of the company.

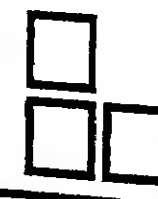
The systems currently in operation are order processing, subscriptions, sales ledger and management reporting. Bought Ledger, nominal ledger, cost ledger and royalty systems are being developed.

The existing systems run on a large DEC PDP 11/70 and a second machine has been recently acquired to accommodate the new systems. The programming language used is a sophisticated combination of COBOL and BASIC.

The successful applicant will be expected to contribute to the development of new systems and to provide support for existing systems.

Courses will be provided for the candidate who shows suitable professional skills but who does not have the necessary knowledge of DEC products.

Please write giving full details of qualifications and experience to: Linda Stammers, Personnel Officer, Butterworth & Co. (Publishers) Ltd., Borough Green, Sevenoaks, Kent.



Butterworths

COMPUTING OPPORTUNITIES

South Yorkshire

Our Client, a dynamic, well established subsidiary of a major group, provides a full range of management services to both in-house and external users. Restructuring has created the following openings:-

Senior Systems Analysts Circa £9500
Senior Programmer Circa £8500

Systems Analysts must have sound experience in either Finance Accounting or Production Control Systems.

Programmers, at least 4 years experience in commercial environments using COBOL and structured techniques.

Graduates are preferred, I.B.M. experience is essential. Those appointed will be involved in a variety of projects on technically advanced installations requiring both customer contact and commercial decision-making. Career prospects are excellent. Major benefits apply, including assistance with relocation.

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NORTH HERTFORDSHIRE DISTRICT COUNCIL FINANCE DEPARTMENT

(1) SYSTEMS ANALYST/ PROGRAMMER

Salary Grade P01 (1-5) - £8,991-£9,993 p.a.

(2) PROGRAMMER

Salary Grade S01/2 - £8,190-£9,528 p.a.

These posts are responsible directly to the Computer Manager. The computer configuration consists of dual ICL 2955s with numerous terminals and real-time systems. The Council is developing real-time viewdata systems and already operates a real-time booking system for the leisure Centre through viewdata terminals.

(1) Systems Analyst/Programmer
The Systems Analyst/Programmer is required to be responsible for carrying out feasibility studies, analysis and design of systems. It is expected that the successful applicant will have had formal training in systems analysis and a considerable degree of practical experience as the post is primarily concerned with analysis.

(2) Programmer
An experienced programmer is required with knowledge of ICL VME operating systems as an advantage.

Further information concerning the above posts may be obtained from Mr. P. Barrett on Letworth 6500 Ext. 284.

Application forms may be obtained from:

The Director of Finance

North Herts District Council

Town Lodge, Gamon Road

LETCHEWORTH, Herts SG8 3HN

or by ringing Letworth 6500 Ext. 343

The closing date for receipt of applications is 12th November, 1982.

[1418]

City Treasurer's Department

Systems Analyst

Grade S02 - £8,991-£9,993
with experience of designing and implementing major systems.

Senior Programmer

(SOFTWARE) Grade S01 - £8,190-£9,528
with substantial programming experience and familiarity with software applicable to ICL 2900 Series, particularly IDMS.

Programmer

Grade T2/4 or if qualified AP3/5 - £5,064-£7,875
This is a grossly inefficient and has nothing to recommend it. Firstly, it makes a significant task out of what should be a simple exercise. Secondly, it relies on the vagaries of the human memory which is a recording device, tends to concentrate on highs and lows with an overlay of random amnesia. Thirdly, it potentially delays the initiation of actions to be taken by up to a week. Fourthly, call reports can be overlooked altogether, creating a picture of sales activity which is less than actual performance.

The best place to write out a call report is during the call. A client will never object to a salesperson's request to take notes during a meeting. After all, such an action confirms a desire to do a thorough job. A call report produced during the sales call is more likely to represent a true record of everything that transpired. A call report created

Application forms and job details from: City Personnel Officer, The Council House, Derby, DE1 2FG. Telephone: Derby (0332) 31111, Ext. 2144. Closing date for receipt of applications: November 12, 1982.

The Council operates an Equal Opportunity in Employment Policy.

Derby City Council

BOX NUMBERS

Box number replies should be addressed to:

Box Number
to Computer Weekly
Quadrant House, The Quadrant
Buxton, Surrey S18 2AS

SALES BIT Quality of Management - 28

Don't rely on memory—it can let you down!

SALESPERSONS are not very keen on call reports at the best of times. But if the reports are complicated, boring or apparently pointless, if they are treated by the sales manager as casually as an unsolicited mailshot from a thermal underwear manufacturer, then he is running an untidy ship, and mutiny is just around the corner.

An effective call reporting system is of considerable benefit to both the sales manager and the sales person who contributes the information. It is a vital input to the planning and implementation of any selling strategy.

Time after time the existence of a call report proves to be the only source of information concerning what was agreed or said at some meeting that took place in the dim and distant past. Sometimes the only way the marketing department is made aware of an aspect of competitive activity is through a circulated call report.

From a sales person's point of view, a call reporting system must provide the maximum effect with the minimum of effort. If much of this can be done by merely ticking boxes - type of call, product(s) discussed, copy to, etc - so much the better.

As far as the recipients are concerned (be they sales manager, technical director, or whoever), the principal information needed is date, name of company, contact, a brief statement of the key elements of the call, actions to be taken, name of the salesperson. Any further detail should only be produced by way of formal request from those with a special interest.

The call report is probably the area where the salesperson tends to leave most events and actions to memory, yet this is the area where it is essential that no observation or promise of action to be taken is forgotten. How many salespeople do you know who write out most of the call reports once a week, say, on a Friday night or a Monday morning and only then because their manager collects them on a weekly basis?

This is grossly inefficient and has nothing to recommend it. Firstly, it makes a significant task out of what should be a simple exercise. Secondly, it relies on the vagaries of the human memory which is a recording device, tends to concentrate on highs and lows with an overlay of random amnesia. Thirdly, it potentially delays the initiation of actions to be taken by up to a week. Fourthly, call reports can be overlooked altogether, creating a picture of sales activity which is less than actual performance.

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directly after the call, maybe sitting in the car, even using a cassette recorder, is certainly preferable to the once-per-week fiasco, but is less reliable than the dynamic response of the in-call report. Documentation produced in this way is immediately available for action.

A copy of the report can be used to back up a telephone call to the technical department to act upon a complaint, or by the sales manager who can set upon a useful piece of information about competitive activity. This approach is the only truly efficient way of sales recording when you think about it, for the function of call reports is substantially more than providing historical record.

The call report is an excellent device for keeping colleagues up-to-date with clients. If a salesperson (by way of a tick or stating initials) can ensure that all interested parties receive a copy of his report, the ensuing benefits substantially outweigh any risks of a paper flood.

Sales staff can only be effective if those people supporting them are fully acquainted with the problems and opportunities of the marketplace. The call report is possibly the salesperson's best device for stimulating mutual understanding between their clients and themselves.

If the call report is perceived by the salesforce as a piece of bureaucratic junk conceived by some pedantic megalo-maniac in head office simply to minimise selling time, then the chances of maintaining an effective call reporting system are extremely low.

Typically, the importance of the salesperson puts upon call reporting is very much a reflection of the sales manager's attitude towards processing. If the recipient doesn't take the matter seriously, why should the initiator?

Nevertheless, being aware that all the sales manager does is make paper aeroplanes from the call reports he receives, is no excuse for not creating them. As well as being the latest news from the front for those who have the awareness to appreciate them, they are also essential sources of information for the salesperson's subsequent recording, planning and performance analysis.

To be without them, is to severely jeopardise chances of future sales success.

Alan Williams

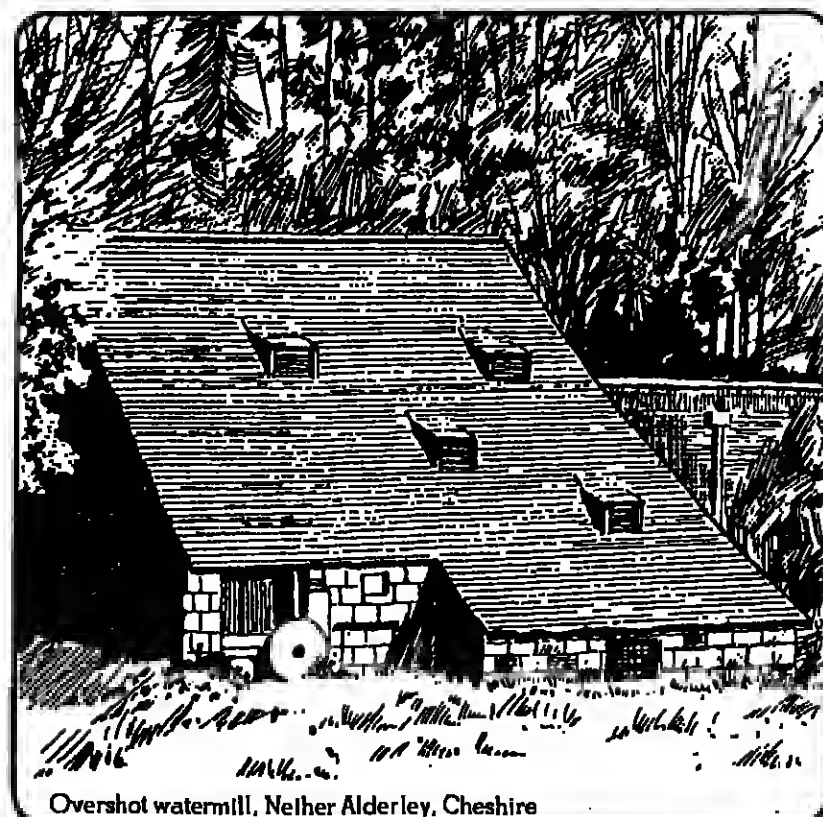
PUZZLE ANSWER

THE trick is to realise that the original isosceles triangle is in effect made up of two 17cm x 15cm x 8cm right-angled triangles standing upright on their 8cm sides. To construct the only other isosceles triangle having the same area, two 17cm sides, and a different base, one merely has to lay the two right-angled triangles down next to each other on their 15cm sides, thus making up a figure with a base of 30cm.



Pharmaceuticals Division

Systems Analysts



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BACKGROUND

ICI Pharmaceuticals is one of the leading discoverers of new medicines and health care products. At its Research and Development complex in Alderley Park an extensive R & D programme is supported by an advanced and comprehensive computer centre which covers a wide range of applications from scientific study management to information processing.

THE POSITIONS

There are vacancies at varying levels for well qualified systems analysts to be involved in defining, developing and implementing systems in support of the Divisions Commercial, Clinical and Medical functions. Projects will embrace integrated data management and the use of mainframe, mini and micro computers. Candidates would be expected to make a major contribution to overall project management in a highly qualified scientific user environment.

EXPERIENCE

For the more junior positions of least three years systems analysis experience with involvement in the implementation stages of a major project is required. Flexibility, creativity and the ability to work as part of a team are essential personal characteristics. A science based degree and database systems experience would also be advantageous.

BENEFITS

In addition to the salary other benefits include up to five weeks holiday, profit sharing and bonus payments, an attractive relocation package and good career prospects.

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CROSSWORD

Solution to Prize Crossword No. 33



OUR £10 prize for October was won by John Edwards, a systems engineer with IBM, at Welwyn Garden City. Gordon Smith, a statistician at Torrey Research Station in Aherden, and Jim McGorrick, a research assistant in the dental physiology department at St George's Hospital Medical School London, were runners up.

WEST LAMBETH HEALTH AUTHORITY ST. THOMAS' HOSPITAL LONDON SE1 7EH

COMPUTER OPERATOR

Salary Scale £5,585-£8,582 (inclusive of London Weighting and Shift Allowance).

The Sherrin Scheffer Centre specialises in health care management and clinical information systems. It provides a service via an extensive terminal network to West Lambeth Health District using Honeywell Sigma 8 and Prime 300 Computers.

Applicants must be prepared to take considerable responsibility and to appreciate the principles of the system and software in use. Experience of Sigma/Prime equipment is not essential, but knowledge of a terminal network would be an advantage.

Application forms and further details can be obtained by phoning the Personnel Department on 01-826 8282 Ext. 2522.

Closing date for completed application forms 12th November, 1982.

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Keppel Street/Over Street,
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COMPUTER PROGRAMMER

Pre-School Child Growth Survey

The survey requires a graduate computer programmer for an appointment up to 30th September 1982 to undertake analysis of survey data. The successful applicant will be a member of a small team of workers in the Department of Human Nutrition. Applicants should preferably have experience of handling packages such as SPSS; a statistical qualification will be an advantage. Salary will be in the range £7,307 to £17,037 depending on qualifications and experience. 6 weeks holiday is allowed per annum.

Applications, with full curriculum vitae and naming two referees, to be sent to the Assistant Secretary by 15th November 1982.

THE UNIVERSITY OF LEEDS DEPARTMENT OF APPLIED MATHEMATICAL STUDIES

Applications are invited for the post of COMPUTER OPERATOR in the above department. Candidates should possess a good degree in a branch of science or engineering relevant to the Departmental interests, which include the fields of continuum mechanics, astrophysics, mathematical physics, and numerical analysis. The appointment will be made for a fixed period of up to one year.

Salary at an appropriate point on the IA scale for Research and Academic staff (£5,550-£11,000), according to age, qualifications and experience.

Further information on this post can be obtained from the Head of Department, Professor F. A. Gledhill (0532-441781) and 5024.

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, enclosing reference number 51/76, closing date for applications 11 November 1982.

Systems and Programming Staff

required by Britain's leading property company

Land Securities (Management) Ltd., the leading property company, is in the process of developing and implementing a range of new computer systems. These are based on a dual Honeywell DPS7/Lavel 64 installation which is linked to a network of terminals in the Head Office and Regional Offices and utilises TDS and IDS II software.

Further development staff are required and applications for the following vacancies are invited from men and women who have had experience of working in an on-line commercial environment preferably with similar Honeywell equipment. The possession of a degree or appropriate professional qualification would be an advantage.

ANALYSTS experienced in the identification of user requirements at the business level and the translation of such requirements into effective computer systems.

A SYSTEMS PROGRAMMER who, in addition to installing, configuring and tailoring system software, will provide advice in its use to both development staff and end users.

ANALYST PROGRAMMERS AND PROGRAMMERS

preferably with upwards of two years' experience of the specification and programming of computer systems. Consideration will also be given to recent graduates with a good degree in a numerate subject who wish to make a career in the commercial application of computers.

Salaries will be commensurate with experience and qualifications. Other benefits include a non-contributory pension scheme, annual bonus, a share participation scheme and free BUPA and restaurant facilities.

Please apply with brief details of qualifications and experience to:

Management Services Manager
Land Securities (Management) Limited
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In return the Company offers a competitive five figure starting salary plus car, together with an extensive benefits package. Relocation assistance will be provided where necessary.

For further information please contact ADRIAN HARDY, on 01 935 0671 (24 hour answering service) or Ashford, Middlesex (07 842) 46026 (evenings and weekends), or alternatively furnish him with a comprehensive Curriculum Vitae at the London address quoting reference AH103.

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